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EDUCATION for VICTORY

OFFICIAL BIWEEKLY OF THE UNITED STATES OFFICE OF EDUCATION
FEDERAL SECURITY AGENCY, Replacing SCHOOL LIFE for the Duration of the War

VOL. 2, No. 14 **WASHINGTON, D. C.** **January 20, 1944**

ROUTE TO:

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Visual Aids for War Training A Step Forward in Education

"A 'secret' training weapon, which puts war industry workers on the production line in one-fourth to one-third less time, has been developed by the U. S. Office of Education of the Federal Security Agency in cooperation with the War Manpower Commission.

"This short cut to war production is a new type of training film. Educators tell us experience with these new films shows that they not only cut training time, but also substantially increase retention of what is taught."

Thus spoke Administrator Paul V. McNutt of the Federal Security Agency and Chairman of the War Manpower Commission at the opening of the premier demonstration of the Office of Education's war training films in Washington, D. C., December 28.

Areas covered by the 198 war training films now available include machine shop skills, shipbuilding skills, aircraft manufacturing skills, supervisory training, engineering, optical glass, welding, farm work, and forging. Each unit consists of a training film, film strips for studying special details of the skill, and a teachers' manual.

Most Up-to-Date Teaching Tools

Following the pre-Pearl Harbor surveys of the Office of Education, made with a view to planning the best ways to utilize existing resources of the Nation-wide vocational education program for preparing workers as quickly as possible for national defense, it was recognized that the most up-to-date teaching tools and materials should be used.

While no separate funds were made available for visual aids, in the supplemental appropriation passed by Congress in October 1940 authorization was contained in the appropriation language. As a consequence, a special division of visual aids for what was then called defense training was set up in January 1941. It immediately began active planning for the production of visual aids to facilitate the entire training program. As a result, some 18 sound motion pictures were placed on the market 2 weeks before Pearl Harbor. Later funds were appropriated expressly for further development of the program.

At the premier demonstration of the films developed to date, Mr. McNutt continued as follows:

"Nearly 100 films to speed up the training of workers in the most critical manpower shortage areas have been completed and are in daily use in factories, schools, and by the Army and Navy. One hundred additional films are in production, and another three hundred are in the planning stage.

"These war training films, designed as a new type of teaching "tool" for instructors, are making educational history by teaching workers essential skills motion by motion. I have been interested to learn, for example, that engine lathe training alone requires 17 films; and that there will eventually be more than 30 films on aircraft manufacturing skills.

"Another distinguishing mark of this new training weapon is that production is handled on a self-liquidating basis. There are no free prints. More than 30,000

EDUCATION for Victory

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Federal Security Administrator
PAUL V. McNUTT

U. S. Commissioner of Education
JOHN W. STUDEBAKER

Editor in Chief, OLGA A. JONES

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ATTENTION SUBSCRIBERS

EDUCATION FOR VICTORY replaced *School Life*, which with the February 1942 issue was temporarily discontinued for the duration of the war. EDUCATION FOR VICTORY started March 3, 1942, with Volume 1, No. 1.

Frequent requests are received by the U. S. Office of Education for permission to reprint material from EDUCATION FOR VICTORY. Such material may be reprinted without special permission. When excerpts are reprinted it is requested that they be used so that their original meaning is clear.

The periodical is issued to enable the U. S. Office of Education to serve all educational fields as widely as possible during these wartimes. It brings to educational leaders important official announcements; current reports on emergency programs; statements and plans of various Federal Government agencies vital to education, and other material.

prints have been sold by the Government, one-third to industry, one-third to schools giving war training, and one-third to the Army and Navy. Until recently, the films were sold for the cost of film stock. Now, at the request of Congress, they are being sold at a rate expected to return to the Federal Government the full cost of production. Congress first appropriated $1,000,000 to the U. S. Office of Education for war training films. For this fiscal year, Congress increased the appropriation to $2,000,000.

"These war training films are not Hollywood productions. They have been made locally by 23 different film producers in 8 States. All the producers are small businessmen. One concern has the contract for sales distribution, thus relieving the Government of that responsibility.

Released to Allies

"Every film is outlined by a technical expert and a visual-aids expert. Production is supervised by a committee named by the director of vocational education for the State where the picture is made. This committee usually includes industrial experts, shop teachers and union workers, and, since it is a local group, its advice and guidance is readily accessible to safeguard the accuracy and effectiveness of the training film. To many industries and vocational schools, the Federal Government owes a debt of gratitude for generous help in creating the films.

"America's new training weapon is also being released to our Allies. Canada and South Africa have each purchased over 1,000 prints. Twenty films were recently flown to Soviet Russia. Audiences for these war training films are already estimated to exceed 15,000,000.

"Practically all the great war industries now use these films to speed up our war machine. We are stepping up manpower utilization. We are getting more and more production. Education, industry, and the groups of small businesses which produce the pictures have joined hands with the Federal Government to make possible this effective high-speed training."

The Office of Education points out that this is the first time films have been produced in an integrated series, graduated in difficulty, and intended to form basic curricular material designed to fit into organized courses of instruction. It is also the first time in the history of the film industry that filmstrips have been developed, deliberately geared into and coordinated with the sound motion picture for the most effective teaching utilization.

VISUAL AIDS . . .

On Radio

Of the numerous training films and filmstrips on radio produced by the Army and the Navy, 10 have been released for civilian use through the U. S. Office of Education and may be purchased from Castle Films, 30 Rockefeller Plaza, New York 20, N. Y. Two are sound films, eight are filmstrips.

Sound Films

TF 1-474 Radio Antennas: Creation and Behavior of Radio Waves.

Depicts electric and magnetic fields, generation of electro-magnetic waves, behavior of radio waves in space, ground wave, reflection and refraction, the inonosphere, the causes of fading. Running time: 11 minutes. Sale price: $10.26.

TF 1-327 Aerial Navigation: Radio Aids.

Shows the various radio aids available to the pilot and navigator, including radio range station, radio compass, and use of general radio equipment. Methods of quadrant identification are described. Running time: 30 minutes. Sale price: $27.22.

Filmstrips

(Sale price: 72 cents each.)

SN-645a Measuring Electrical Units: Part I.

Describes the use and care of instruments for measuring resistance, voltage and current.

SN-654b Measuring Electrical Units: Part II.

Describes the use and care of instruments for measuring capacity (condensers) and alternating current.

SN-647 Inductive Reactance.

Explains the basic theory of inductive reactance and its application to radio instruments.

SN-648 Capacitive Reactance.

Explains the basic theory of capacitive reactance and its application to radio instruments.

SN-650 Vacuum Tubes.

Describes the theory of operation of vacuum tubes and their function in the radio circuit.

SN-652 Audio Frequency Amplification.

Describes theory and practice of amplification of the audio wave.

SN-653 Radio Frequency Amplification.

Describes theory and practice of amplification of the detected radio wave.

SN-654 Reproducers.

Describes the construction and operation of headphones and loud speakers.

Waste Paper Collection

Number One Salvage Job

While school pupils throughout the Nation are continuously engaged in the salvaging of all four of the materials which the War Production Board has asked them to salvage, the collection of waste paper has come to be more important than all other salvage jobs, according to Emery W. Balduf, Chief of the School-College Unit of WPB's Salvage Division.

Early in the school year emphasis was placed on the "Victory Scrap Bank" drive to collect reserves of iron and steel scrap. That drive was scheduled to end in the middle of November but has been continued because salvage committees and schools in many parts of the country got off to a late start.

While the results of the Victory Scrap Bank drive are not yet fully known, it is not expected that the 15-million ton goal will be met, even through extension of the campaign. Scrap accumulations from industry itself, however, and from other sources such as abandoned trackage, elevated railroad structures, and the like, have been sufficient to prevent the closing of any steel mills. But the reserve supply of scrap iron and steel is said to be far from adequate.

Alarming Situation

Reserve stocks of waste paper are in a much worse plight, having declined steadily for several months—this in face of an ever-increasing demand for products made of waste paper. So alarming has the situation become, that Donald M. Nelson, Chairman of the War Production Board, has supplemented appeals to the school pupils of the nation by a challenge to the American Newspaper Publishers Association. Members of the Association, themselves among the chief sufferers from the current paper shortage, without assurances that they will receive any additional newsprint, have launched a campaign to bring waste paper inventories up to a safe level.

In his challenge to the newspaper publishers, Mr. Nelson stated:

"A number of plants are shut down or curtailed for lack of waste paper. Millions of paperboard containers carrying food, ammunition, and equipment are being shipped overseas weekly to American and Allied forces. Waste paper is one of the chief raw materials from which these containers are made. It is used also in the manufacture of bomb bands, shell protectors and containers, airplane signals, parachute flares, ammunition chests and a great many other weapons of war.

"Our need today for waste paper is greater than ever because of the shortage of pulpwood for making paper. Conversely the total amount available for salvage is less because of the greatly increased quantity, in the form of packages and packing, which is going overseas, most of which cannot be returned. We are now collecting at the rate of approximately 6 million tons of waste paper annually out of a potential salvage tonnage of about 15 million. If we can boost collections to an annual 8 million ton rate, there will be no shortage."

Mr. Nelson also made a direct appeal to the Boy Scouts of America.

School Pupils Counted On

It is indicative of the value and importance attached to the schools' part in the salvage program, that both the War Production Board's Salvage Division and the American Newspaper Publishers Association are relying largely on school pupils to bring in the needed waste paper.

"The promotional ingenuity and organizing ability of school teachers, principals, and superintendents and the enthusiasm of school pupils was never more clearly evidenced than by the variety of effective ways in which schools have tackled the salvage job," reported Dr. Balduf. "As stated in the school salvage handbook, *Your School Can Salvage For Victory*, no attempt is being made to set up a single salvage pattern for all the schools of the Nation. We have gone on the assumption from the outset that, once the school authorities and school pupils know the job to be done, they themselves will devise the very best ways of accomplishing it. That is now being borne out particularly in the variety of effective attacks they have made upon the waste paper shortage problem."

Some Successful School Campaigns

An example of what rural school children can do in a waste paper drive is furnished by Moore School of Linn County, Mo., the school which won a contest recently conducted by a radio program. This school, with 12 pupils ranging from 6 to 14 years, reported a total of 274,000 pounds of waste paper or 22,833 pounds per pupil during the week of November 6–13. While much of the paper was turned in by relatives of the 12 pupils scattered throughout Linn County, the paper thus collected would not have been collected, had it not been for the initiative and enterprise of the pupils themselves.

An example of what city school children can do is furnished by the schools of Lancaster, Pa. Pupils bring newspapers and magazines to the school once a week from their own homes and those of their neighbors. They accumulated most of the *1,163 tons* of waste paper reported by the Lancaster County Salvage Committee in October.

As a result of the new emphasis upon waste paper collection, especially by the schools, receipts in November showed a gain for the first time in months. Many schools engaged in waste paper collection

Why A Waste Paper Campaign?

Waste paper, which in peacetime is so plentiful that it becomes a household nuisance, today is a vital war material necessary in the manufacture of essential military equipment. Because of the great demand, normal trade channels are unable to supply enough waste paper to keep mills running full time and to enable them to meet all overseas and home front war requirements.

At the present time there are approximately 20 to 25 mills shut down for lack of waste paper—and inventories dangerously low in many others. The situation is critical.

There is an abundance of waste paper in the home, in the store, and in the factory. But most of this never reaches the mill. Wartime shortages of manpower and transportation equipment are so acute that the flow of waste paper to the mills has been erratic. And therein lies the problem.

Shipments of waste paper to the mills must be increased at least 167,000 tons (33⅓ percent) a month. The War Production Board estimates that over 1,250,000 tons of salvable paper are available every month and that half of this—or 667,000 tons—will keep the mills running at peak production. Collections are now running about 500,000 tons a month.

More Facts About Waste Paper at War

—Once we get our fighting men overseas, it takes 81 tons of supplies per month per man to keep them there, compared to 43 tons per month per man in the last war. This requires huge quantities of containers and packaging material.

—Every standard unit of small arms ammunition has its containers.

—Paperboard targets are used for pistol, rifle, and machine gun practice.

—U. S. Army Field Ration "K" is packed in folding cartons.

—Paperboard protects every shell until it is fired.

—100 pounds of waste paper will make 650 cartons for U. S. Army Field Ration "K".

—100 pounds of waste paper will make 115 boxes, each containing ten 20-mm. shells.

—100 pounds of waste paper will make fifty 75-mm. shell containers.

Wartime Uses of Waste Paper

Air Force emergency packs.
Ammunition containers.
Army ration containers.
Automotive oil cartridges.
Blood plasma containers.
Bomb fins.
Bomb rings.
Building paper and board for cantonments.
Cartridge paper.
Camouflage paper.
Charts, rolls, and tape for recording instruments.
Check papers for military and Government use.
Covers for war stamp and ration books.
Covers for cigarette papers.
Dust and dirt covers and seals for motors.
Envelopes for military dispatches.
Fibre conduits and fittings used in cantonments.
Flare spacers for signal flares.
Forms for military records, orders, reports, etc., and for expediting war plant production.
Fuses and component parts.
Garbage and utility cans for cantonments.
Gas mask canisters.
Gears for motors.
Grenade containers.
Helmets and helmet accessories.
Inner packaging material for packing military equipment and supplies.
Instrument panels.
Jacquard board used in weaving cloth for uniforms.
Labels for marking packaged quartermaster supplies.
Metal and rubber interleaving for war industries.
Posters for recruiting, war bond drives, etc.
Practice and incendiary bombs.
Shell containers.
Shipping containers for military equipment and supplies.
Targets.
V-mail blanks.

are carrying on a steady program of salvaging all the materials which the War Production Board has designated: Paper, iron and steel scrap, tin cans, and used household fats. The War Production Board, for reasons of health, does not encourage school children to engage in rag salvage.

An example of rural school organization for the salvaging of all critical materials is furnished by St. Clair County, Mich. Here the County Salvage Committee, working in conjunction with the St. Clair County Schools and the War Production Board, has undertaken to enroll every boy and girl in the schools in a War Salvage Commando Corps. Each school district is a corps unit. Prizes totaling $110 and a suitable trophy will be awarded for salvage efforts during the school year on the basis of total and per capita collections.

Each school is responsible for all the homes in its district and reports each month to the commissioner of county schools, Mrs. Elvera Morrison, the total amount of each item collected as well as the per capita percentage. Percentages are based on the ratio of collections to quotas. The quotas per month per home are as follows: One pound of used household fats, 4 tin cans, 30 pounds of waste paper, 50 pounds of scrap, and 15 pounds of rags. The quota of junked cars or "jalopies" is 5 per month per district.

During the first month the program was in operation, the tin can and fats quotas were exceeded. The second month's report showed gains in scrap and fats and little recession in the other items, proving that a steady, continuing salvage program is well worth while. Total collections during the first 2 months were as follows: 113,593 pounds of scrap, 56,382 tin cans, 2,261 pounds of fats, 90,587 pounds of waste paper, 13,531 pounds of rags, and 29 "jalopies."

Copies of a 12-page pamphlet describing the St. Clair County Salvage Program in detail can be had by addressing the School-College Unit, Salvage Division, WPB, 2711 Temporary Building D, Fourth Street and Independence Avenue SW., Washington, D. C.

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Useful Experience Gained

Dietary habits of many Negro farm families in Louisiana are being revised as a result of the efforts of teachers in Negro home economics departments in the high schools of that State, it is reported.

One teacher, for example, made a careful study of the foods eaten and prepared by the 81 farm girls enrolled in home economics. She found that 37 of these girls came from farms where there were no home gardens and that on many of these farms few or no chickens or hogs were raised. Thirty of the thirty-seven came to school without breakfast. Seven occasionally had 5 cents with which to purchase lunch, and these frequently bought a bottle drink or candy. Only 3 of the 37 brought lunch from home.

The entire group was organized into sections for the study of nutrition problems. A survey was made to find out what foods the girls could afford to bring from home. An improvised pantry was stocked from the foods contributed. The girls' home economics club in the school donated 81 cents per month to purchase food for lunches, and the home economics teacher arranged to use leftovers from food classes.

Local Foods Used

As a part of the class instruction recipes and menus were built around such foods as black-eyed peas, sweet-potatoes, pork, cabbage, collard greens, turnips, and corn meal.

In carrying through the lunch plans the group received experience in planning lunches and preparing them, in managing their time and resources, and in working with others.

American Vocational Association Conference

Weighs Future Responsibilities

Further development of war training, area schools, technician training, expansion of the Food for Victory program, and problems of retraining veterans vied for attention at the War Work Vocational Training Conference held by the American Vocational Association in Chicago, December 15–17.

Nearly 3,000 delegates and members came together for meetings which appraised the present state of vocational education and weighed future responsibilities.

What to do about the retraining of veterans was the subject of discussion throughout the conference. Federal Advisory Board Chairman, Robert J. Watt, in a paper read in his absence by Assistant U. S. Commissioner for Vocational Education, J. C. Wright, said, "We believe the retraining program must be considered as an integral part of the military demobilization and remobilization plans.

"The type of training must be determined by a consideration of: Which industries will continue in the peace economy; which wartime industries can readily and speedily be converted into peacetime industries (new and old), and which will require a long time for conversion; how many workers will be needed for each kind of industry; what kind and amount of training will be needed to qualify workers for their old or new jobs; what peace industries will expand; what new industries will get into production." He also declared that "Public vocational schools under the framework of Federal cooperation should be at the foundation of the proposed program of vocational training for servicemen."

Carl A. Gray, president, Grenby Manufacturing Co., and author of what has come to be called the Gray plan for retraining servicemen and war industry workers, also dealt with this problem at a joint meeting with school administrators. "I am not unmindful" he said "that our first job is to win this war—but I believe those who say 'Let's win the war first,' in an effort to postpone planning are suffering from intellectual myopia * * *. If a country can take a man from a job or from a school, submit him to extensive medical, physical, neurological, psychological, psychiatric, and vocational interviews, train him at great expense over a period of many months, equip him with the best to muster him into military service—then that same country must have the imagination and the courage and the willingness to bear great expense to do the same thing in mustering him back to civil life. Government trains and pays men to learn to kill. How much better to teach them to learn to live and produce for the general welfare of all."

Reorganize Educational Machinery

U. S. Commissioner of Education, John W. Studebaker, agreeing with Mr. Gray on the importance of immediate planning for post-war training, pointed out that States should reorganize their educational machinery so that the Federal Government could work with them more effectively. "Only about five States," he said, "have State boards of education whose over-all responsibility for higher education, vocational education, and general education permits cooperation with the Federal Government through a single body. In most States, the Federal Government, dealing with the veteran-training problem, would face the difficulty of dealing with a number of State boards in addition to the chief State school officer."

In sessions on industrial education, guidance, rehabilitation, and others, speakers presented aspects of veteran and war industry worker retraining problems. Predicting that 10,000,000 veterans and 20,000,000 war workers would need immediate help in adjusting themselves to new conditions when the war ends, Harry A. Jager, Chief, Occupational Information and Guidance Service, U. S. Office of Education, urged the development of local guidance services.

He reported that pilot guidance centers will be launched in communities in seven States. These centers will attempt to coordinate all the existing guidance, welfare, social, and educational agencies in a community counselling service equipped with National, State, and local information needed by veterans and war workers. Such a service would help men and women to readjust themselves as soon as the war ended. Mr. Jager also reported that this plan is under discussion by an interdepartmental committee composed of representatives of Selective Service, U. S. Employment Service, Veterans Administration, Vocational Rehabilitation Service, and the U. S. Office of Education.

At one general session, Donald Shank of the American Council on Education, speaking for Col. Francis T. Spaulding, reported on the hearings in respect to the Thomas Bill which occurred while the convention was in session. The conference crystallized the American Vocational Association policy in the resolution quoted below.

Technical Institutes Needed

Technician training and area schools are closely related to the post-war retraining discussions. L. J. Fletcher, director of training, Caterpillar Tractor Company, told the conference that industry could use annually 60,000 graduates of 2-year technical institutes. He also pointed out the world-wide demand for American technicians to help develop the unused resources of the world. Mr. Fletcher envisioned a technical institute in every American city of 50,000 or more.

Area schools will in part supply the answer to the need for technical institutes. The convention heard that both New York and Michigan were well along in planning systems of area schools which would bring trade and industrial education within reach of all youth. New York's plan includes an area school within 50 miles of every child. Connecticut and Louisiana already have area vocational schools.

Vocational agriculture also turned its attention to the area school problem, envisioning centers which will train workers in the service trades such as electricity, plumbing, etc., who are needed in the farm regions. Research on this problem suggested by Frank W. Lathrop, research specialist in agricultural education, U. S. Office of Education, was recommended by the vocational agriculture sessions.

Home economics educators considered problems (1) connected with retraining women now at work in war industries and (2) growing out of the school lunch program. Augusta H. Clawson, special agent, War Production Training for Women, U. S. Office of Education, appearing in welder's costume, told a general session of the adaptations that should be made in training to prepare women for war industries. She illustrated her suggestions with accounts of

personal experience at the Swan Shipyard in Portland, Oreg.

New officers elected were:

President, John A. McCarthy, assistant commissioner of education, Trenton, N. J.—1 year; treasurer, Charles W. Sylvester, director of vocational education, Baltimore, Maryland—1 year; vice president for industrial education, George H. Fern, State director for vocational education, Michigan—3 years; vice president for vocational rehabilitation, Claude Andrews, State supervisor vocational rehabilitation, Florida—3 years; president, Association of Officers of State Vocational Associations, Ralph H. Woods, director of vocational education, Kentucky.

Resolutions Adopted

Resolutions adopted by the American Vocational Association, December 17, 1943, were:

Whereas since the vocational rehabilitation program has been separated from the U. S. Office of Education and established as a new division of the Social Security Agency, the various State boards for vocational education are now compelled to deal with two separate agencies in the field of vocational training, and

Whereas vocational training is one of the most important phases of any sound vocational rehabilitation program, and

Whereas, there is a probability of duplication of payment for the same service from two Federal sources, (1) by reimbursement from regular Federal vocational education funds of classes in local schools, and (2) from Federal rehabilitation funds for tuition of vocational rehabilitation clients enrolled in the same classes,

Therefore be it resolved, That the national administration of the civilian vocational rehabilitation program be returned to the Vocational Division of the U. S. Office of Education.

Whereas the vocational schools of America have carried out during the past 3 years the most gigantic task of vocational training ever undertaken by any nation in peace or war, and

Whereas the United States Navy and the United States Army as well as industry and labor have expressed appreciation for the fine service rendered the war effort by the vocational schools, and

Whereas certain equipment and facilities have been made available by or through the war training programs to enable vocational education to provide a more effective program not only during but after the war,

Therefore be it resolved: That the States inaugurate effective planning for post-war programs in vocational education which will include effective training and adjustment for the returned soldiers; for the millions of war production workers who may need additional training or retraining for peacetime occupations; and for all those who will face readjustments in family life.

Whereas new skills will be needed to enable returned servicemen to enter gainful peacetime employment, and

Whereas the State boards for vocational education of the several States and Territories of Hawaii and Puerto Rico have rendered significant service in the vocational training of war workers, and

Whereas the vocational schools have, with the aid of Federal funds provided by the Congress, much of the basic equipment, facilities, and trained administrative and instructing personnel to meet the training needs of returned servicemen, and

Whereas public sentiment does not favor the establishment of duplicating training boards and bureaus either on the national or State levels,

Therefore be it resolved: That the American Vocational Association recommend that instead of providing tuition payments to educational institutions, funds be appropriated through the U. S. Office of Education to be allotted to the respective States and State boards specifically responsible for the various types of education.

Report of ESMWT

Over 200 Institutions Participate

The Engineering, Science, and Management War Training Program of the U. S. Office of Education, according to estimates based upon incomplete enrollment reports, enrolled about half a million persons in approximately 12,500 short, tuition-free courses during the calendar year 1943. These courses were administered in more than 1,000 towns and cities by over 200 participating colleges and universities.

About 105,000, or 21 percent of those enrolled, were women in training for important technical and subprofessional jobs from which they release men. The distribution of enrollments is as follows: 356,000 in engineering courses; 14,000 in chemistry courses; 9,000 in physics courses; and 121,000 in courses in production supervision. The cost of these courses during 1943 was approximately $21,000,000.

Engineering, Science, and Management War Training courses, like the Engineering, Science, and Management Defense Training courses of the fiscal year 1941–42, were offered by public and tax-exempt colleges approved to cooperate with the U. S. Office of Education in conducting short courses of college grade designed to meet the shortage of engineers, chemists, physicists, and production supervisors in activities essential to the national defense and war efforts.

Since the beginning of this enterprise in 1940, more than 1,300,000 men and women have been enrolled in short courses of 12 to 16 weeks average duration. Without charge to themselves or their prospective employers, these men and women have been quickly prepared for specific, scientific, and technical jobs.

While none of these programs has been intended to educate engineers, chemists, physicists, or production managers, they have been successful in meeting their established goals which are, first, to give professional engineers and scientists instruction in those specialties important to the national defense with which they have not had previous experience; second, to afford training which will make it possible for war production employees to prepare themselves for more difficult and responsible work assignments; and third, to enable men and women without previous technical training or experience to become assistants to fully qualified technical and managerial officers; and through training in fundamental techniques and principles, to function as subprofessional engineering, chemistry, physics, or management technicians.

Contribution of Colleges

It is essential to an understanding of ESMWT to realize that this program is an educational contribution to the war effort by the participating colleges and universities—though federally administered and financed, the courses are not directed by the Federal Government. This concept is fundamental to the philosophy of the program. A second fundamental of the ESMWT credo is that the courses are not intended to provide general education, but to afford

training which will meet specific personnel needs of war industries.

Members of minority groups in the Nation's population have been admitted to ESMWT classes whenever they could meet the prerequisites for the courses. Facilities to accommodate colored persons have been established and are now operating in each of the 48 States. While only 849 Negroes were enrolled in the EDT program of 1940–41, the number has risen steadily, reaching a cumulative total of more than 20,000 by the end of 1943.

Heavy drafts against the Nation's manpower have created unprecedented opportunities for men above the age liable for military service. This trend has been reflected in ESMWT enrollments. All factors have combined to raise the median age of the men enrolled. Many of the institutions reporting on this point, note that the responsible attitude of these older men coupled with the experience which many of them have acquired in non-war industries makes them a group of exceptional value for many exacting positions.

The experience of the University of Pennsylvania, the Illinois Institute of Technology, Stanford University, Harvard University, and several other institutions in retraining men of responsible background for supervisory and industrial engineering jobs in war plants has been of particular interest. Selecting these men with extreme care and coordinating their courses closely with the needs of industrial employers, the institutions have been able to fill several hundred key positions satisfactorily.

Retraining Discharged Servicemen

Discharged servicemen who are leaving the armed forces at a rate of several thousand a week are beginning to assume importance as an additional source of personnel for war production. Although ESMWT has never departed from its assigned function of meeting the shortage of engineers, chemists, physicists, and production supervisors in fields essential to the national defense, that function is not incompatible with the retraining of properly qualified, discharged servicemen for jobs in war industries. Many employers report a preference for such men; and, where ESMWT courses provide the required training, they serve a twofold purpose in supplying desirable personnel for the home front while assisting the individual in his reorientation to civil life. Substantial numbers of servicemen are expected to enroll during coming months.

This year, many women have been drawn into the technical branches of industrial employment from homes, clerical positions, schools, and beauty parlors. It was obvious from the beginning of this trend that such women would require even more intensive training than that necessary to prepare men. The participating institutions have endeavored to meet this requirement through the design of courses especially devoted to the war training needs of women. In many industries, particularly aircraft, these efforts have been successful.

Despite all measures taken to recruit them, however, the supply of women qualified to profit from college-level courses in engineering, chemistry, physics, or production supervision seems to be dwindling. It was hoped in the later months of 1943 to raise enrollments of women to about 40 percent of the total, but they could not be found in sufficient numbers to accomplish this increase. It seems likely that not more than 150,000 women a year can be recruited for these courses and the employment for which they provide training, although industry needs several times this many.

While precise, objective, material evaluation of the effectiveness of ESMWT cannot be made, it seems evident that the training has brought about faster, cheaper, and better production of supplies of war than would have been possible without such courses. An additional value derives from such byproducts as experience relating to adult education by institutions and industry; fostering of machinery for cooperation between businessmen and educators; and inspiration afforded individuals to seek higher levels of achievement through lifelong education.

Continued Need Anticipated

Although 1943 has seen war production approach its peak of manpower requirements, no decline in the need for ESMWT courses is anticipated. Several factors influence this conviction. First, it must be remembered that changes in the utilization of American colleges and universities, together with the reduction of the Selective Service age limit have drastically reduced the supply of graduate engineers, chemists, physicists, and business management majors for other than military organizations. Industry must suffer still further depletions of professional and technical staffs, in numbers yet to be determined, to meet the manpower needs of the armed forces. Finally, the practice of upgrading by means of inservice training, through which employees are advanced to more responsible positions as vacancies require, will further reduce the force of qualified technicians, women especially, at the lower levels.

All of these influences, it is believed, will make imperative the continuation of the college-level war training offered in ESMWT at about the current rate—to train approximately 500,000 during the year 1944.

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Tire Shortage Imperils School Transportation

Rumors of a critical shortage of school bus tires caused the U. S. Office of Education to request an official statement on the truck tire situation from the Office of Price Administration. On December 20, 1943, such a statement was furnished by Sparks E. Bonnett, Chief of the Tire Rationing Branch of the Office of Price Administration. The following paragraphs are quoted from this statement:

At the present time, truck tire demand exceeds civilian truck tire production by more than 200,000 tires per month. At this rate, we face a possible shortage of 1,000,000 truck tires by the end of this year. There are indications that continued heavy military demands, the introduction of synthetic tire construction, shortage of facilities, equipment, and manpower may cut farther into the limited production of new civilian truck tires.

Every precaution must be taken to avoid a break-down of our highway transportation system. This means the elimination of tire abuse caused by improper inflation, speed, overloading, etc., and the recapping of all tire carcasses before they have been worn beyond repair. Strict conservation of the tires now on the nation's trucks is the only answer to this dangerous shortage situation.

This statement indicates the increasing seriousness of the problem of securing tires for school buses. Even when school bus operators are able to obtain certificates for new tires from local rationing boards they may be unable to find tires to purchase.

School administrators should call to the attention of bus operators the situation with respect to tires and give every possible assistance in a program for the conservation of tires now in use. Particular attention should be given to the recapping of tire carcasses before they have been worn beyond repair. Unless this is done the problem may become so acute that it will be difficult to keep all children in school through the remaining months of the school year.

Some Statistics

Problem of Teacher Shortage

There were approximately 864,300 teaching positions in the public elementary and secondary school systems in October 1942. From data submitted to the U. S. Office of Education in October 1943, it appears that 192,500 of these positions became vacant during or at the close of the school year ended June 1943, and had to be filled, left vacant, or abandoned before the present school year opened in September or October 1943.

About 37,600 of the teachers who left returned, presumably to a better job. For the remaining 154,900 positions, persons who had not taught in 1942–43 had to be employed to take the places of the teachers who had joined the armed forces, taken jobs in business or industry, or for other reasons given up their teaching jobs, or the position would be vacant. It was found necessary, because no teachers could be obtained, or advisable, because of decreased enrollments, consolidation of schools, etc., to abandon 15,100 positions.

Only 132,100 persons could be found before October 1, 1943, who were willing to enter or re-enter the teaching field. The schools of education, teachers colleges, and normal schools supplied some of these new teachers; but because of the attraction of better pay in business and industry and the patriotic appeal of the armed forces, many who were prepared to teach entered other jobs. Exactly how many is not known. Most of the supply came, therefore, from persons who formerly had taught but who had left the profession to be married or for other reasons. On October 1, 1943, there were 7,700 unfilled positions, for which the schools were still seeking teachers.

Of the 841,500 positions for which there were teachers on October 1, 1943, only 671,800 (80 percent) were held by experienced teachers in the same school systems in which they had taught last year; 37,600 (4 percent) were held by experienced teachers who were in a different school system, and 132,100 (16 percent) were held by either recent graduates of teacher training institutions in their first job, or former teachers who had returned to the classroom. About 56,900 of these had substandard training and were employed on emergency certificates good for 1 year.

Since 169,700 of the 841,500 teachers employed before October 1, 1943, for the 1943–44 school year were either entirely new or employed in different school systems from the previous year, the rate of teacher turn-over was 20 percent, 1 of every 5 teachers. Last year the rate of teacher turn-over was only 17 percent.

Change in teaching positions during 1942 and 1943

Item	*Number*
Total teaching positions, 1942–43	864,300
Positions abandoned for 1943–44	−15,100
Total teaching positions 1943–44	849,200
Positions—unfilled, Oct. 1, 1943	−7,700
Positions filled for 1943–44	841,500
Teachers remaining in same school systems	671,800
Experienced teachers who transferred to other school systems	37,600
Persons teaching this year who did not teach last year	132,100

Methods of Meeting Teacher Shortages

Reports from 1,389 school systems to the U. S. Office of Education, as of October 1, 1943, show that more than half of these systems had increased teachers' salaries, locally, and reinstated married teachers as the two most common methods of meeting the teacher shortage problem this fall. The next three most used methods were: (1) replacing men with women, (2) employing teachers from other school systems, and (3) employing inexperienced teachers. These five methods are the same as were used last year, but 20 percent more systems had raised salaries locally, and 10 percent more had reinstated married teachers to meet shortages this year than last.

In the large cities, 100,000 population and more, half of the 20 cities reporting had transferred teachers from one field to another as a major method of meeting shortages in critical fields. Employing out-of-State teachers was used by 10 to 25 percent of all school systems in places other than the largest cities. Increasing the teacher load was used by 10 to 20 percent of all school systems reporting, other than cities of 30,000 population and more. In cities with a population less than 10,000, and in counties and rural independent districts, 10 percent or more recalled retired teachers—almost half of the county districts reporting used this method.

The county districts were the only ones in which the closing of schools was used by any appreciable percent of the districts (13 percent) to meet teacher shortages. The pupils, however, were probably taken care of in other schools.

The most common method used by cities of 100,000 population and more was replacing men with women. The most common method used by all other types of school districts was to raise salaries locally.

The second most common method of meeting teacher shortages by all school systems, except in cities of 30,000 population and more, was reinstating married teachers.

The schools are indeed fortunate to have a large reservoir of persons who were trained to teach, who in an emergency can go back into the classroom. It is also fortunate in wartime that this reserve supply consists mostly of women. This is the major reason why only 28,000 teaching positions have had to be abandoned in the last 2 years, and why not more than 1 percent of the remaining teaching positions have been unfilled.

The following table shows a comparison, on a percentage basis, of the methods used to meet teacher shortage last year and this:

How schools met the teacher shortage in 1943

[1,389 systems reporting]

Method	1943–44		1942–43
	Number	Percent	Percent
Increasing salaries, locally	1,154	83	64
Reinstating married teachers	786	57	47
Replacing men with women	554	40	43
Employing teachers from other systems	480	35	37
Employing inexperienced teachers	388	28	40
Recalling of retired teachers	227	16	19
Employing out-of-State teachers	221	16	21
Increasing teacher load	218	16	29
Obtaining deferment of men	115	8	13
Discontinuing courses	110	8	15
Transferring teachers to other fields	94	7	15
Retaining teachers who would have retired	70	5	9
Closing schools	58	4	7
State subsidizing for salaries	55	4	3
Employing high-school graduates	40	3	3
Employing college students	22	2	4
Operating on 2 shifts	13	1	1
Other	26	2	4

Post-War Educational Plant Policies

Studies and Plans Important Now

All signs point toward extensive Federal, State, and local public works immediately following the war. Regardless of what governmental unit provides the funds, it seems reasonable to expect that priority will be given to projects for which sites have been secured and for which drawings and specifications are ready. It is essential therefore that educational administrators immediately make their studies of need and prepare their drawings for post-war projects.

Need for Educational Plant Facilities

Postponed Construction

Very few buildings are being erected during the war, and most of those are of a temporary nature. Continued obsolescence and depreciation will require an extensive building program after the war to catch up with postponed construction.

Population Shifts

Records show that since 1940 there has been the greatest population shift of any period in American history. Many war workers will undoubtedly remain in their present localities where war industries can be converted into peacetime production. Many others will return to their original localities, and still others will find employment in new or relocated industries. This tremendous shifting and reshifting of population will leave many vacant classrooms and require the rehousing of thousands of pupils.

Changed Concepts of Education

Trends indicate that the post-war educational system will place increased emphasis on vocational education, adult and continuation education, and preschool, recreational, health, and library services. Not only the extent and curriculum of the schools and colleges but even the methods of instruction will undergo material changes as a result of experiences in the war training programs. These changes may render many existing plants obsolete for the post-war demands, necessitating a considerable program of remodeling and rehousing.

School Reorganization

Thousands of school districts in America are too small to support adequate educational programs including the services which will be demanded of the post-war schools. In order to establish and maintain an efficient and effective school system some States may need to reorganize their local school administrative units. Comprehensive programs of reorganization and consolidation will require replacing thousands of small schoolhouses with modern consolidated educational plants.

Increased Enrollments

For the past few years there has been some decrease in enrollment due in large measure, to a declining birth rate and greater work opportunities for youth. It is reasonable to expect that both of these factors will be reversed in the period following the war. It is also reasonable to expect that Federal and State governments will make it possible for many thousands of the youth released from the armed services to continue their education. These factors point to an increased post-war enrollment in the American schools and colleges.

Responsibility for Planning Facilities

Professional Planning

Post-war public works will include facilities for many functional types of public services such as education, health, recreation, roads, sewers, water supply, and fire and police protection. It is important that the professional agencies responsible for operating these facilities direct the determination of need and preparation of plans for public works.

The principle of specific professional planning is stated by the Interstate Committee on Post-War Reconstruction and Development of the Council of State Governments as follows:

> It (planning) cannot be successfully divorced from those who are actually in charge of operations. To make State post-war planning significant and practical, it should, therefore, be done as far as possible within the particular departments and operating agencies upon which will fall the responsibility of carrying specific plans into effect. Only these working agencies have the experience and the trained personnel which qualifies them to do a competent job within the field of their specialization.

This policy as applied to public education means that post-war educational plant planning is the responsibility of the regularly constituted educational agencies at the Federal, State, and local levels. This principle was clearly stated in the preamble to a resolution adopted by the National Council on Schoolhouse Construction at its annual meeting in October:

> The National Council on Schoolhouse Construction urges legislation and directives which will assure that educational functions connected with the planning and construction of educational facilities be under the direct control and supervision of the regularly constituted educational authorities at the Federal, State, and local levels.

Levels of Responsibility

In planning post-war educational plant facilities it is important to observe and respect the different levels of responsibility. The regularly constituted educational agencies at the various levels are: Federal—the United States Office of Education, created as a department in 1867; State—The State boards (or State departments) of education and other duly constituted State educational agencies; and local—the boards of education of the local school administrative units. The Federal educational agency disseminates information and provides consultative services to States, and through State educational agencies to local school units. States may delegate certain educational responsibilities to local governmental units, but fundamentally public education in America is a State function. All Federal activities in connection with public education should, therefore, be channelled through the established educational agencies of State governments.

Steps in Planning

The first step in post-war educational plant planning is the determination of need for and size and location of plant facilities to be erected in the post-war public works program. The intelligent approach to this first step is through State-wide comprehensive surveys under the direction of the duly constituted State and/or local educational authorities in terms of satisfactory administrative units and existing facilities. In many cases this will involve district reorganization. This first step in planning should culminate in specific determination of type and capacity and acquisititon of the site for each individual project.

The second step in planning is the preparation of floor plan sketches of individual projects in terms of the educational services to be provided. This is the function of local educators, local and State school plant specialists, and invited consultants under the direction of

the regularly constituted educational authorities.

The third step in planning is the preparation of working drawings and specifications for individual projects. This is the function of school plant specialists, architects, and engineers under the direction of the duly constituted educational authorities, subject only to local and State codes and regulations and, where Federal construction funds are involved, to Federal construction standards and labor policies which will not affect the educational utility of the plant.

These three steps in planning should be taken in sequence and as soon as possible while there is time to give adequate and intelligent consideration to the many problems involved. Careful planning now will avoid most of the errors usually connected with emergency programs of construction.

Financing Planning

It is possible but not assured that the Congress will make Federal funds available to assist in planning post-war public works. States, however, should not wait for Federal assistance, but initiate their own post-war planning programs immediately. The Council of State Governments has recommended that States build up reserves for planning post-war public works. Some States have surplus or reserve funds, but generally they have not been available for education. It is urged by many that portions of these State reserves be made available for State-wide planning for post-war educational plant programs.

Since local communities eventually will be most affected, they should not wait for Federal and State assistance, but initiate their own county or city planning programs which later may be incorporated into over-all State plans. Some local school administrative units have already made comprehensive school plant surveys and are preparing working drawings for post-war construction.

Responsibility for Constructing and Equipping Facilities

Initiating Construction

The separate fiscal units should assume the responsibility for initiating and legally administering the construction of educational facilities within their respective units. If the local fiscal unit is other than the local educational authority, then the initiation of individual projects should be in accordance with recommendations originating with the local school authority.

Construction Operations

The supervision and inspection of actual construction operations to assure compliance with prescribed minimum construction standards should be performed by technically qualified agencies of the units of government providing the construction funds and/or having jurisdiction over construction within the area. In some States, the State building inspectors or fire marshals will have certain legal responsibilities even if State funds are not involved. In fiscally independent school systems, the local educational authorities should share in the responsibility for supervision and inspection of construction.

In all cases the State and local educational agencies should have authority and responsibility for seeing that the construction progresses in accordance with plans and specifications without changes which would have negative effects on the educational utility of the plant. Where Federal contributions are received for construction costs, it seems reasonable to expect that the Federal Government will audit the accounts to assure that Federal funds are used according to the act providing such funds. If the Federal act providing funds specifies labor policies, it may also be expected that the Federal Government will have supervision over such policies.

Selection and Purchase of Equipment

If Federal and/or State funds are made available for the purchase of equipment, it naturally follows that Federal and/or State agencies will have some jurisdiction over the gross or relative amounts used for this purpose and the general nature of items to be included. The actual selection of equipment however, must be left to local educational authorities if educational plants are to be equipped in keeping with the educational services to be provided. There are so many types, designs, and qualities of equipment that proper selection cannot be assured unless educational authorities are responsible for preparing the specifications and administering the purchase of equipment. Equipment should be purchased by educational agencies under direct contracts with manufacturers or distributors and not included in the general contruction contract.

Financing Construction

It is too early to predict the Federal policy in regard to financing post-war public works. If Federal funds are made available for post-war public works construction, it seems safe to assume that employment will be one of the primary considerations. This does not necessarily mean that Federal allotments should be made to localities in proportion to unemployment. It seems obvious that the greatest post-war unemployment will be in the congested areas of war activity. Some of these areas have been provided with community facilities in excess of their post-war requirements. The allotment of Federal funds for post-war public works on the basis of relative unemployment would, therefore, result in an unequitable and unsound distribution. The mobility of labor has been demonstrated by the rapid influx of workers to war areas. It seems reasonable to expect that unemployed labor will go to the jobs regardless of location. If Federal aid for post-war public works is distributed according to the need for facilities, it will relieve unemployment and at the same time tend to redistribute the surplus populations from congested areas.

There are three basic methods of distributing funds: Matching, per capita, and equalization. Matching tends to increase the inequality of wealthy and poor areas. Equalization involves relative need and ability, factors which should be considered but are difficult to measure on a national basis. Considering the difficulty of administering a Federal program on an equalization basis and the inequality of matching, a good compromise favored rather widely is distribution of Federal aid to States for post-war public works on the basis of population.

It should not be necessary for each local community to file its application with a Federal agency. It would be simpler and more equitable for the appropriate State educational agencies to collect, review, and approve applications, and charge the project allotments against the Federal allotments available to the States. Such a plan would also facilitate State participation in the financing of post-war public works construction.

If Federal funds are made available for post-war public works, specific amounts should be allotted for school plant facilities, and apportioned to States on basis of the population.

If individual project allotments to local school administrative units, through the proper Federal and State agencies, were based on a Federal grant per classroom unit instead of a percentage grant, it would result in a still more equitable distribution of Federal funds. For example, a $3,000 Federal grant per class-

(*Turn to page 14*)

Good Health and Fitness—All-Time Needs

Minimum Standards On Equipment and Supplies

Instruction in physical education often suffers for lack of tools. If the development of the human body is to be purposeful and objective, the use of objects in the form of equipment and supplies is essential. In a primitive society, the natural environment and the exigencies of life supplied the objects of activity and these conditioned the kinds of development which resulted. Our present civilization with its demands upon the human organism calls for opportunities to engage in forms of physical activity which will, on the one hand, provide the muscular exercise biologically needed, and on the other hand, provide instruction in motor skills and recreation interests essential to modern living.

The typical picture of a type of instruction in physical education in which a class of 40 boys is taught basketball with only 2 or even 4 balls (8 to 10 are needed) and a class of girls is taught softball with only 4 balls and 2 bats (10 balls and 10 bats are a minimum), is evidence of a failure to appreciate the importance of adequate tools for the job to be done.

The majority of physical education programs in elementary and secondary schools of this country do not have sufficient amounts of facilities, equipment, and supplies. In an effort to help schools to estimate minimum amounts of equipment needed for various activities in physical education there is presented here a table giving suggested minimum amounts of equipment and supplies for schools of different enrollments.

The table has been prepared with attention to essential physical fitness activities for wartime programs and does not contain a complete list of items used in normal physical education programs. The list attempts to provide for both boys and girls and for elementary and secondary schools. In the case of items used typically only by girls, amounts in the table apply only to girls. Similarly, in the case of activities usually participated in by boys only, such as football and baseball, amounts apply only to boys. In case of some items, such as baseball uniforms and shoes, amounts

Minimum Standards on Equipment and Supplies for Physical Fitness in Schools and Colleges

[Amounts provide for both boys and girls where activities are participated in by both sexes, and for those activities included in specific school programs]

(1) Minimum Essential Items Using Critical Materials

Items	Amount needed per class or group of 0 to 50 students	Total amounts for schools with 51 to 100 enrollment	Total amounts for schools with 101 to 500 enrollment	Total amounts for schools with 501 to 1,000 enrollment	Added amounts for each 1,000 enrollment above 1,000
Indoor equipment:					
Swimming pool equipment, such as ladders, platforms, diving board platforms, and fulcrums	0	0	1	1	1
Climbing poles	1	2	2	4	0
Climbing ropes	2	4	8	8	2
Parallel bars	0	0	1	2	0
Horizontal bars	1	2	2	4	2
Stall bars (3-foot sections)	1	2	4	8	2
Flying and traveling rings (sets)	0	1	1	2	0
Horizontal ladders	1	2	2	4	1
Basketball goals	2	4	12	12	4
Volley ball standards (pair)	1	2	4	8	2
Boxing ring supports	0	0	1	1	1
Climbing ladders	1	1	2	3	1
Jumping standards (pairs)	1	2	3	4	2
Mat hangers	2	8	16	32	4
Mat trucks	0	1	2	4	2
Striking and training bag assemblies	0	0	1	2	1
Outdoor equipment:					
Climbing structures of jungle gym or obstacle course type	1	2	2	3	1
Horizontal (chinning) bars, triple heights preferred	1	2	4	4	2
Horizontal ladders	1	2	2	4	1
Slides, 6- and 8-foot heights only (elementary schools)	1	2	2	4	0
Swing sets with seats in units of two, 8- and 10-foot heights only (elementary school)	1	2	4	8	1
School ground backstops	1	2	4	6	2
Combination apparatus units including *only* horizontal bars, climbing ropes, climbing poles, ladders, and overhead ladders, or a combination of these items	1	1	2	3	1

(2) Additional Essential Items

Archery:					
Arm guards	2	8	10	20	10
Arrow tips	12	24	24	36	12
Arrows	24	36	48	72	12
Bows	2	4	8	12	4
Bow strings	2	6	10	14	2
Finger tabs (sets)	4	10	20	24	4
Quivers	2	4	8	10	2
Targets	1	2	4	6	1
Badminton:					
Nets	1	2	4	6	1
Rackets	4	5	10	12	4
Racket presses	4	5	10	12	4
Shuttlecocks	12	18	36	48	24
Baseball:					
Baseballs	6	12	18	24	6
Baseball bats	4	6	8	10	2
Baseball mits	1	2	4	4	1
Body protectors	1	1	2	4	1
Catchers' leg-guards (pairs)	1	1	2	4	1
Catchers' mits	1	1	2	4	1
Fielders' gloves	9	9	18	36	9
Home plates	1	1	2	4	1
Pitchers' plates	1	1	2	4	1
Shoes	12	18	36	48	12
Uniforms	12	18	24	36	6
Basketball:					
Basketballs	2	4	10	16	4
Basketball backboards	2	4	8	12	2
Elbow pads	10	12	18	24	6
Goals (complete units)	2	4	8	12	4
Knee guards	10	12	18	24	6
Nets (replacements)	2	2	4	4	1
Shoes	12	18	24	30	6
Uniforms	10	12	18	24	6
Bladders for inflated balls:					
Replacements for each variety	1	2	2	4	1

(*Continued on next page*)

provide for school teams only. Equipment for shower and locker rooms is not itemized, and amounts apply to completely equipped units.

The table contains two lists of equipment. The first list, "Minimum Essential Items Using Critical Materials," contains items whose manufacture has been approved under War Production Board Order No. M–126, as amended. The second list contains additional essential items.

The table is intended as an aid to schools in deciding how much of certain items of equipment should be on hand for activities included in a given physical education program. Not all of the activities or equipment listed will be used necessarily by any one school.

Items	Amount needed per class or group of 0 to 50 students	Total amounts for schools with 51 to 100 enrollment	Total amounts for schools with 101 to 500 enrollment	Total amounts for schools with 501 to 1,000 enrollment	Added amounts for each 1,000 enrollment above 1,000
Boating:					
Oars	2	4	8	12	2
Oar locks	2	4	8	12	2
Paddles	4	6	10	16	2
Boxing:					
Gloves (12 ounce and 14 ounce)	4	8	24	48	12
Head guards	2	4	12	24	6
Shoes	4	8	24	48	12
Striking bags	1	1	2	4	1
Striking bag platforms	1	1	2	4	1
Swivels	1	1	2	4	1
Teeth protectors	2	4	12	24	6
Training bags (canvas)	1	1	2	2	1
Field hockey:					
Balls	0	0	8	12	6
Shin guards	0	0	22	24	6
Sticks	0	0	24	26	12
Football:					
Footballs	4	6	10	12	4
Football goals (pairs)	1	1	2	2	1
Helmets	0	24	36	48	12
Hip and kidney pads	0	24	36	48	12
Jerseys	14	30	40	54	12
Officials horns	1	1	1	2	1
Shoes	14	30	40	54	12
Shoulder pads	0	24	36	48	12
Trousers	0	24	36	48	12
Gymnastics:					
Bucks	0	0	1	2	1
Climbing ropes	1	2	8	8	2
Chest weights	0	0	0	8	2
Gym shoes	48	100	500	1,000	1,000
Horizontal bars	1	2	4	4	2
Horses	0	0	1	4	1
Inclined and horizontal ladders	1	2	2	4	2
Installation fixtures (ceiling, walls, floors)	(1)	(1)	(1)	(1)	(1)
Mats (3 x 6 feet)	0	0	6	16	6
Mats (5 x 8 feet)	2	4	8	16	4
Mat hooks	2	8	16	32	4
Outdoor apparatus units	1	1	2	4	2
Parallel bars	0	0	1	2	1
Stall bars (3-foot sections)	1	2	4	8	2
Stall bar benches	2	4	8	16	4
Springboards	0	1	2	4	1
Suits	50	100	500	1,000	1,000
Handball:					
Balls	2	6	24	36	12
Gloves	4	4	12	24	12
Ice hockey:					
Hockey goals	0	0	2	4	2
Hockey sticks	0	0	14	26	6
Ice skate shoes	0	0	14	26	6
Protective equipment	0	0	14	26	6
Shin guards	0	0	14	26	6
Inflators and ball repairing equipment:					
(Sets)	1	1	2	2	1
Medicine ball:					
Different weight balls	0	2	8	12	4
Obstacle course:					
Construction hardware	(1)	(1)	(1)	(1)	(1)
Construction materials	(1)	(1)	(1)	(1)	(1)
Climbing poles	2				
Climbing ropes	2				
Ladders	2				
Complete courses	1	1	1	2	1
Lanes per course	2	4	4	4	2
Rhythmic activities:					
Dance clothing (outfits)	0	12	24	36	12
Drums	1	1	1	2	1
Drum beaters	1	1	1	2	1
Pianos	1	1	1	2	0
Electric record players	1	1	1	2	0
Records	12	12	18	24	6
Skiing:					
Skis	0	0	6	12	6
Ski bindings (sets)	0	0	6	12	6
Ski boots (pairs)	0	0	6	12	6
Ski clothing (outfits)	0	0	6	12	6
Ski poles (pairs)	0	0	6	12	6
Ski wax (1 pound)	0	0	4	4	1
Soccer:					
Balls	4	6	12	18	4
Shin guards (pairs)	12	12	24	24	6
Shoes	0	12	30	36	6
Uniforms	0	12	24	36	6
Softball:					
Balls	6	10	12	24	6
Bases (set of 3)	1	2	4	8	1
Bats	4	6	12	18	4
Catchers' masks	1	2	4	8	1
Gloves	2	4	8	16	2
Home plates	1	2	4	8	1
Sweat suits:					
Pants	0	12	36	48	12
Shirts	0	12	12	48	12
Swimming:					
Caps	0	0	50	100	25
Chlorine (pounds)	0	0	10	25	15
Diving boards	0	0	2	4	0

[1] As needed for apparatus involved.

The Role of Exercise

A committee appointed by the American Association for Health, Physical Education, and Recreation has prepared a report designed to clarify the place of exercise in the development of physical fitness. The report, entitled *The Role of Exercise in Physical Fitness*, has the endorsement of the American Medical Association and the Joint Committe on Health Problems in Education of the National Education Association and the American Medical Association.

The report discusses certain physiologic factors involved when exercise takes place. "The normal heart and circulatory system become stronger and more efficient in moving blood to active regions when repeatedly required to do so. The demand for improved circulation incident to prolonged exercise is reflected primarily in greater strength, endurance, and efficiency of the heart. Games and sports involving running, vigorous swimming, or similar extended effort serve this purpose."

Statements are made in the report which refute some of the bogies regarding exercise. For example, the following is of importance to educators: "Precluding accidents, a normal, healthy child cannot do himself permanent organic injury by physical exertion." Another statement which is contrary to the belief held by many is: "The time of day for exercise may well be in accord with individual inclination and other determining circumstances. Evidence as to the effect of exercise on digestion indicates that great physical exertion does not necessarily interfere significantly with digestion, though strong emotion may do so even unaccompanied by exercise."

(Next page column 1)

Items	Amount needed per class or group of 0 to 50 students	Total amounts for schools with 51 to 100 enrollment	Total amounts for schools with 101 to 500 enrollment	Total amounts for schools with 501 to 1,000 enrollment	Added amounts for each 1,000 enrollment above 1,000
Swimming—Continued					
Ear stoppers	0	0	12	24	6
Nose clips	0	0	6	12	4
Platforms and towers	0	0	1	2	0
Suits	0	0	150	250	25
Water-testing materials	0	0	1	1	0
Table tennis:					
Nets	2	4	6	8	1
Net supports	2	4	6	8	1
Paddles	6	18	30	36	4
Ping pong balls	12	24	24	36	12
Tables	2	4	6	8	1
Tennis:					
Balls	0	12	24	36	12
Nets	0	1	2	4	2
Posts (sets)	0	1	2	4	2
Rackets	0	6	10	20	10
Racket presses	0	6	10	20	10
Racket stringing material	0	2	4	6	2
Shoes (See gymnasium shoes)	0	0	0	0	0
Track and field:					
Cross bars	6	12	18	18	6
Discus	1	1	2	2	1
High jump standards (pair)	1	1	2	2	1
Javelins	2	3	4	6	1
Hurdles (low and high)	0	0	22	90	12
Jumping shoes	4	6	12	18	6
Pole vault standards (pair)	1	1	1	2	1
Stop watches	1	1	2	4	1
Suits	12	18	24	36	12
Substitute for shot	1	1	2	4	1
Track shoes	12	18	24	36	12
Vaulting poles	2	3	4	6	1
Volley ball:					
Balls (fabric, rubber)	4	6	12	16	4
Nets	1	2	4	8	1
Standards (pair)	2	2	4	8	1
Water polo:					
Balls	0	0	2	4	2
Goals	0	0	2	2	0
Wrestling:					
Mats	0	0	2	4	1
Shoes	0	0	12	18	6
Suits	0	0	12	18	6
Miscellaneous:					
Bleacher repair materials	0	0	1	1	1
Back and leg dynamometer	0	0	1	1	0
Bean bags	12	18	24	36	6
Calipers, steel	0	0	2	2	0
Calipers, wood	1	1	2	2	0
Chest tapes	2	4	8	12	0
Corrective gymnasium equipment	0	0	1	2	0
Darts (sets)	1	2	4	8	2
First aid cases, kits, and supplies	1	1	2	3	1
Golf clubs (sets of 4)	0	0	12	48	6
Gymnasium cleaning equipment	0	1	1	1	1
Hand dynamometer	0	0	1	2	0
Horseshoe and stake (sets)	1	2	2	8	2
Indian clubs	0	12	48	48	6
Locker room equipment (complete)	1	1	2	3	1
Lunger	0	1	2	2	1
Pistols	1	1	1	2	1
Pool cleaning equipment	0	0	1	1	1
Protective wall mats	0	0	(1)	(1)	(1)
Scales	1	2	2	2	2
Shower equipment (complete)	1	1	2	3	1
Spirometer	0	0	1	1	0
Tape lines (50 feet)	1	1	2	3	1
Tape lines (100 feet)	1	1	1	2	0
Teniquoit rings	2	4	8	12	2
Training room equipment	0	0	1	1	0
Whistles (plastic)	2	4	4	8	2
Hair driers	0	0	2	4	1

[1] As needed.

A summary of the report is as follows:

1. Exercise is one of the factors contributing to total fitness.

2. The contributions of exercise to fitness include the development and maintenance of strength, speed, agility, endurance, and skill in persons who are physiologically sound. In this connection games, sports, swimming, rhythmic activities, and prescribed exercises, all play distinctive roles.

3. Individuals vary in their capacity to benefit from exercise, because of hereditary limiting factors and differences in body size, strength, and structure.

4. Exercise should be graded according to age, capacity of the individual, and the state of his training and fitness. In general, exercise should be modified in the direction of less strenuous activities after the age of 40.

5. Allowing for individual exceptions, exercise for girls and women should and will be on a less strenuous level than for boys and men.

6. The training undergone in preparation for an athletic event contributes more to physical fitness than does the actual event.

7. Since performance in any activity is fundamentally conditioned by the age, sex, and physical capacity of the participants, it follows that the amount of effort actually exerted by each individual will more significantly determine the contribution of the activity to his physical fitness than will the rules or other specifications that give form to the activity.

The committee which prepared the report consisted of Arthur H. Steinhaus, chairman, professor of physiology, George Williams College; Leon Krantz, Professor of physical education, Northwestern University; W. W. Bauer, M. D., director, Bureau of Health Education, American Medical Association; F. A. Hellebrandt, M. D., associate professor of Physical Medicine, University of Wisconsin; E. E. Jokl, M. D., consultant in physical education to northern command, South African Defense Force, Johannesburg, South Africa; Alice Miller, associate health education consultant, U. S. Public Health Service.

The report may be obtained for 10 cents from the American Association for Health, Physical Education, and Recreation, 1201 Sixteenth Street NW., Washington, D. C.

Working Conference In Health Education For State Leaders

A working conference in health education, sponsored by the U. S. Office of Education and the U. S. Public Health Service, was held recently in Chicago. State departments of education and health in that region were invited to send representatives. The purposes of the conferences were to:

1. Stimulate the development of health education programs.
2. Develop plans of action on common problems within States.
3. Develop the contribution which State departments of health and State departments of education can make in the solution of problems.
4. Provide the opportunity for staffs of both departments to develop good working relationships.

Sixty-three individuals from 14 States attended the conference. About one-third of these were persons in education and two-thirds in public health work.

Both groups enlarged their understandings of what the other was doing in health education and of the possibilities of building on each other's resources. Before the conference adjourned follow-up meetings had been planned by some States in which the personnel of departments of education and health would explore ways of working together for a total health education program.

Plant Policies

(*Continued from page 10*)

room would provide nearly all the funds necessary for a one-story, frame rural schoolhouse in the lower economic-bracket communities. If calculated on the 45–55 basis as used in the 1930's, the $3,000 classroom grant would provide the Federal share for reasonably satisfactory fire-resistive construction in most areas. States and local units with higher construction standards might well be expected to provide greater proportions of the cost.

Priorities

If an immediate and extensive post-war program of public works is launched with Federal assistance, it seems certain that "priorities" will extend into the post-war period. If Federal funds should be made available directly to local units for individual projects without earmarking by States or by functional types of projects, it would be necessary for some Federal agency to pass upon the relative need for and justification of individual project applications. It is not possible for any governmental agency to determine equitably the relative urgency of need and justification for a sewage disposal plant in New York as compared with a school building in Texas.

If Federal funds are made available for post-war public works on any basis which requires Federal determination of project priority and/or amount of project allotment, then that determination for educational facilities should be made by the Federal Government's educational agency, the U. S. Office of Education, on data and recommendations submitted by or through the duly constituted State educational agencies.

It would be more satisfactory and equitable to allocate Federal funds both by States and by functional types of projects. Under such a plan the duly constituted State educational agency of each State should be responsible for determining relative urgency of need and assigning priorities for educational construction projects within the State.

How to Obtain Physical Fitness Equipment on Approved List

Any school which is conducting a physical fitness program of the type advocated by the U. S. Office of Education is eligible to purchase certain items of equipment listed for manufacture under War Production Board Order No. M–126 as amended. It is not necessary that programs of individual schools be approved by the U. S. Office of Education. The War Production Board advises this Office that ratings for required materials are granted to manufacturers with the understanding that they do not request priority ratings from purchasers. It is not necessary to file any form to obtain priority assistance for purchasing equipment listed below.

The procedure to pursue in ordering is as follows:

1. Place your order with any firm that can supply the item.

2. Place on your order the following statement: "This equipment is needed for participation in a physical fitness program advocated by the U. S. Office of Education."

Approved List of Items

The list of items now approved for physical fitness programs is as follows:

Swimming pool equipment—such as ladders, platforms, diving board platforms, and fulcrums;
Climbing poles;
Climbing ropes;
Parallel bars;
Horizontal bars;
Stall bars;
Flying and traveling rings;
Horizontal ladders;
Basket ball goals;
Volley ball standards;
Boxing ring supports;
Climbing ladders;
Jumping standards;
Mat hangars and mat trucks;
Striking and training bag assemblies;
Climbing structures of jungle gym or obstacle course type;
Slides, 6- and 8-foot heights only;
Swing sets with seats in units of two, 8- and 10-foot heights only;
School ground backstops;
Combination apparatus units including *only* horizontal bars, climbing ropes, climbing poles, ladders, and overhead ladders, or any combination of these items.

School Boards

Define Objectives

"Educational Objectives" were defined as follows by the Illinois Association of School Boards, in annual session recently at Springfield:

The Resolutions

Whereas it would be helpful to school boards in determining their future plans to have a clear statement of present educational objectives for the public schools of Illinois,

Therefore be it resolved that the Illinois Association of School Boards hereby adopts the following statement of the objectives of education as now conceived, in full awareness that education is not a static, but a developing concept:

The objectives of public education in Illinois are:

1. To give to each child, insofar as his abilities permit, a sound mastery of the tools of learning and communication, such as reading, writing, arithmetic and the use of written and spoken language.

2. To develop in each child an appropriate understanding of the physical, social, and economic world in which we live and to assist him to adjust himself effectively to his surroundings.

3. To encourage and stimulate the continuous growth in children and youth of their ability to think clearly, logically, and independently and to know and master their own powers and potentialities and to exercise those powers with due regard to the rights of others.

4. To develop in each child an understanding and appreciation of the forces and ideals which have made America great and a sense of his personal opportunities and responsibilities as a citizen of his community, of Illinois, and of the United States.

5. To help pupils, particularly the large group who do not go beyond the public schools, to find their most productive roles in life and to give them enough fundamental science, vocational training, and work experience so that they will be able to qualify for work at their highest skills and can be properly prepared to earn a living.

6. To provide physical education and health services so that every child will have, as far as possible, robust health and the knowledge and desire to safeguard it.

7. To develop a moral and ethical sense in each child so that he will manifest self-control, fairness, justice, tolerance, courtesy, and kindness to his fellows.

8. To prepare children psychologically for a well-balanced and happy social and family life, and for the creative use of their leisure time.

Education of Veterans

Some Bills Introduced in Current Session of Congress

The question of providing post-war educational opportunities to ex-service personnel breaks into two major parts: (1) the education or reeducation of those who have been disabled and who through education can be fitted for new productive activities having a regard for their disabilities and (2) additional educational opportunities for all whose education was interrupted by the war, thus causing a gap in the leadership resources of the Nation. A bill to provide for the first group has already been enacted into law (Public Law 16, 78th Cong., see EDUCATION FOR VICTORY, September 15, 1943, p. 5). Hearings are being held on S. 1509 with a view to providing legislation to achieve the second objective.

Upon signing the amendment to bring young men of 19 and 18 under the Selective Service Act, President Roosevelt appointed a committee to study the possibilities of restoring to these youth at least a part of the educational opportunities interrupted by the war. This committee, broadly representative of the educational activities of the Army and Navy, the U. S. Office of Education, and of non-Government educational agencies, considered this problem extensively and reported its findings. The recommendations of this report became the basis of a presidential message to the Congress on the subject, and many of them were written into S. 1509.

Numerous bills have been introduced in the current session of Congress to provide educational benefits for veterans upon their return to civilian life. Because of the wide interest in this subject, digests of some of these bills are here given. The bills are listed in the order in which they were introduced in the respective branches of the Congress, and without prejudice to any which are not mentioned in so brief a list.

Senate Bills

S. 1495 (Mr. McFarland)

To provide adjusted service compensation to veterans in the form of bonds, and to provide, among other things, that the Administrator of Veterans' Affairs may authorize any veteran to use the proceeds of such bonds prior to expiration of 3 years from date of its issuance in order to procure a course of instruction at any high school, vocational school, college, or other educational institution. Upon approval of the Administrator of such course there shall be placed to the said veteran's credit an amount known as "educational account." (Referred to Committee on Finance.)

S. 1509 (Mr. Thomas of Utah)

To provide for the education and training of veterans. Persons eligible under this bill are to be selected in accordance with such rules as "the President may prescribe, on the basis of their intelligence, aptitude, skill, interest, prior training, education, and experience." The persons selected shall be entitled to training at an educational institution approved in accordance with regulations prescribed by the President, for a period of 1 year, or for such lesser time as may be required to complete the chosen course.

A further period of instruction not exceeding 3 additional years may be provided for persons of exceptional ability and skill. Every person selected for training shall be entitled to receive $50 per month for board, lodging, and other living expenses while in attendance and in good standing (additional amounts are provided for dependents). The President is authorized under this bill to take any other steps which may be necessary to provide educational and vocational guidance to the persons eligible for training; and shall from time to time promulgate such rules and regulations as may be necessary and proper to carry out the provisions of this bill. (Referred to Committee on Education and Labor.)

S. 1516 (Mr. Clark)

To provide for the further education of certain disabled veterans whose education had been interrupted by entrance into military service, by providing that upon application to the Administrator of Veterans' Affairs said veterans shall be entitled to pay while continuing their training at three-fourths the rate for total temporary disability including additional amounts for dependents; provided such education shall not be in excess of a 4-year course of instruction nor extended beyond 6 years from the end of war. (Referred to Committee on Finance.) Same as H. R. 3634 (Mr. Rankin).

S. 1566 (Mr. Wiley)

To consolidate and coordinate governmental activities affecting reestablishment and rehabilitation of veterans in the Veterans' Administration. This bill would direct the Administrator of Veterans' Affairs to establish a central office in Washington and such regional offices as may be deemed necessary by him to carry out the purpose of this measure, and would vest in the Administrator final action in case of appeal in matters of compensation claims, granting medical, surgical, dental, and hospital care, convalescent care, and necessary and reasonable after-care, granting of vocational training and all other matters relating to veterans' benefits. The bill provides that the administration of any law creating benefits for veterans, the administration of which is heretofore vested in some department or agency other than the Veterans' Administration, is to be transferred to the Veterans' Administration. (Referred to Committee on Finance.)

House Bills

H. R. 3200 (Mr. Patman)

To provide certain benefits for members of the armed forces. This bill would, among other things, provide vocational rehabilitation of any disabled veteran "to fit him for employment consistent with the degree of disability:" Provided that no course of training in excess of a period of 4 years nor beyond 6 years after the end of the war shall be approved. To be administered by Administrator of Veterans' Affairs. (Referred to Committee on Ways and Means.)

H. R. 3272 (Mr. Clason)

To provide loans to war-service persons for educational purposes. Would entitle each such person to a loan of such sums as, in the opinion of the educational institution in which he or she may be enrolled, shall be necessary to provide for the living expenses, exclusive of tuition, books, and fees, of such person and the dependents of such person not to exceed $1,200 per calendar year, payable in equal monthly installments. To be administered by the U. S. Commissioner of Education. (Referred to Committee on Education.)

H. R. 3460 (Mr. Smith of Wisconsin)

To provide vocational training for veterans. Would empower the Administrator of Veterans' Affairs to provide all veterans with such vocational training as will fit them for gainful employment. This bill would also empower the Ad-

ministrator to grant financial aid to veterans with the necessary qualifications to enable them to obtain a college education, and to pay each such veteran attending an approved college or university an allowance of $30 per month plus tuition, but not for a longer period than 4 years nor later than 6 years after the end of the war. (Referred to Committee on World War Veterans' Legislation.)

H. R. 3733 (Mr. Barry)

To provide a college education for qualified post-war veterans. This bill would entitle such veterans to "one year's college education, or its equivalent, for each year, or fraction thereof, spent in the service, but not more than four years, at a university, college, or other institution of higher learning of his own choice, approved by the Administrator of Veterans' Affairs." (Referred to Committee on Education.)

H. R. 3751 (Mr. Lemke)

To provide for veterans' rehabilitation, prevent "unemployment, chaos, and confusion" and to promote individual, productive enterprise by enabling veterans to engage in such enterprises and employ themselves in place of asking for jobs. This measure would direct the Administrator of Veterans' Affairs to issue to each veteran a paid-up ordinary life-insurance policy, the amount of such policy shall be at the rate of $100 a month for service prior to December 7, 1941, and $150 per month thereafter for home service, and $300 per month for overseas service: Provided, that $10,000 shall be the maximum amount of any such policy. A veteran may obtain a loan on such paid-up policy and the proceeds of such loan may be used by the veteran for productive enterprise, which may consist of any professional, business, or agricultural undertaking or in obtaining an education. (Referred to Committee on Ways and Means.)

H. R. 3846 (Mr. Barden)

To provide education and training for members of the armed forces and the Merchant Marine, under the administration of the "War Service Education and Training Agency" to be established in the U. S. Office of Education or in the Veterans' Administration, as determined by the President. The said agency shall formulate general policies and procedures necessary to assure the effective inauguration and operation of the program, and prescribe minimum standards of selection which shall be included in State plans with respect to war-service persons desiring further education beyond the first 12 months, examine such State plans and approve those which meet with the requirements of section 8 of the bill. Under this bill there is also to be created an advisory council on war-service education and training consisting of the director of the agency and 14 other persons appointed by the President. War-service persons would receive a subsistence allowance of $50 per month (additional amounts for dependents) while attending school. (Referred to Committee on Education.)

H. R. 3850 (Mr. Outland)

To provide for the education and training of members of the armed forces and the Merchant Marine after their discharge or conclusion of service. The persons eligible for training shall be selected, in accordance with such rules as the President may prescribe, on the basis of their intelligence, aptitude, skill, interest, prior training, education, and experience. The persons so selected shall be entitled to training in an approved educational institution for a period of 1 year. The bill also provides for a further period of study not exceeding 3 additional years for selected persons of exceptional ability and skill.

The bill authorizes payment by the Federal Government of the customary tuition fees to the institution and to the veteran $50 per month for board, lodging and other expenses. Additional allowances are allowed for dependents. (Referred to Committee on Education.)

Elementary Education by Correspondence

Although teaching elementary pupils by supervised correspondence study is a comparatively new undertaking in public education in the United States, it has been used during the past 3 years by 32 of Montana's 56 counties as one method of solving emergency problems, many of which are now aggravated by war conditions, according to a report from Rex Haight, director, State Correspondence School, Montana.

Some details of the director's report follow:

In Hill County, Mont., in 1942–43, eight scattered school districts, all with closed schools, pooled their resources in an effort to provide schooling for their pupils. A plan of rural education grew out of their experiences. The outstanding characteristics of the plan, in addition to its use of elementary correspondence education, are its joint employment of a supervisor for a large area, its emphasis on social education through acquaintance with community agencies, and an extensive health program.

With the approval of the county superintendent, 24 children in this county last year were enrolled in the State Correspondence School, in all grades but the eighth. The children studied at home, some member of the family assuming the responsibility for providing a suitable place of study and for seeing to it that the pupil followed a regular schedule. Since the study guides for the correspondence lessons indicate exactly what the pupil is to do in the assignments and what materials should be mailed to the correspondence center, pupils above the second or third grade require a minimum of adult help.

The county supervisor, employed by the eight districts upon recommendation of the county superintendent, is a qualified teacher who supervises the studies and other school activities of the pupils through visiting in the homes as well as maintaining regular hours in her office. Each district contributes toward her salary in proportion to the number of children enrolled with the correspondence school, paying also the enrollment fees and cost of books for its own children.

Conference Center in Court House

Through the cooperation of county officials, the county supervisor occupies a room in the courthouse which is a conference center for the children and their parents when they come to town on shopping or business trips. They often bring or send the prepared lessons to be checked for completeness (but not corrected) by the county supervisor before they are mailed to the correspondence center. The pupils have access to reference books in the conference room, the county superintendent's office, and the public library. The conference room is also the center of activities such as group singing, meeting of 4–H clubs, display of pupils' work, and a round table that listens to or participates in dramatizations or other school activities.

The county supervisor, in addition to aiding in the scholastic development of the children, plans opportunities for their social development. During the

past year she arranged a tour of the courthouse grounds, an excursion to a creamery, a showing of films to the correspondence group at the high school, a visit to the fire department, and other group activities.

As a part of the health program, the children go periodically to the county health office in the courthouse. There the public health nurse makes health examinations, keeps cumulative health records, asks and answers questions about diet, contagious diseases, sprains and infections, and advises the children on nutrition, good health habits, and prevention of illness.

Three Types Served

During the school year of 1942–43, 63 elementary pupils were enrolled with the Montana State Correspondence School. Enrollments for the current year run about 65 percent over those of the same date of the preceding year, with about twice the number of county superintendents using the correspondence service currently as compared with the preceding year.

Although enrollments are fairly evenly distributed through the eight grades, during the past 2 years the first and second grades have had the largest numbers. Small children, of course, are less able than older ones to go several miles to school in stormy weather or in winter, over unimproved roads or range country.

Three types of children are served by the State Correspondence School: The isolated, the physically disabled, and those in need of special work. The greatest proportion are children isolated because of long distances from an open school, unbridged rivers, mountainous country, or open sparsely settled prairies. These children live an average distance of 10 miles from school. Increase in the enrollment of isolated children is largely due to impracticability of bus transportation of many isolated school children, necessity of maintaining year-round ranch residence in order to meet production goals, difficulties resulting from gasoline rationing, and teacher shortages. About 6 percent of the elementary correspondence pupils have physical disabilities which temporarily or permanently prevent attendance at a regular school. A small percent are enrolled for special work.

In most instances the mother supervises her children's studies, arranging their daily schedule, mailing the lessons to the correspondence center, and asking and receiving help on ways of improving home study. In one county,

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Opportunities for Student Experience

In Extended School Service Programs

A number of schools and colleges in various parts of the country are enriching their child development teaching by using the nursery schools and before-and-after school groups set up in connection with the Extended School Services Program to give students first-hand experiences with children. The need for informal "laboratory" situations in which children can be studied unobtrusively as they go about their business has long been recognized and such opportunities are provided schools and communities in a position to use Extended School Services facilities in this way.

In Toledo, Ohio, arrangements have been made for high-school boys and girls taking child development courses to observe in two Extended School Services nursery schools and to take increasing responsibility for assisting with the children as they advance in their study of child behavior. High-school teachers giving child development instruction direct the students' class work; Extended School Services teachers supervise them while they are in the nursery schools. Class work and field work are coordinated by the preschool consultant of the Board of Education working closely with the Extended School Services supervisor. The preschool consultant is provided through the Toledo community family life education program.

Guides for Student Participation

Outstanding among techniques and materials developed in connection with this cooperative project are the guides for student observation. These are the result of 3 years previous experience and revision in a similar cooperative arrangement in Toledo with WPA nursery schools. They are organized in such a way that any high-school boy or girl who proceeds according to the suggestions given can learn much about child development by looking where he is asked to look, and doing what he is asked to do. The introduction to the guides is as follows:

The children's centers (or the Extended School Service Programs) are established to meet the special needs of children of working mothers. They are operated by the Board of Education with Federal funds (provided under the Lanham Act), which meets part of the operating cost. Parents pay a daily fee for each child, which covers the remaining costs. They are not substitutes for the home, but are planned to help and supplement home programs and to contribute to the physical, social, and intellectual development of preschool children.

You are given this opportunity of observing and participating in the children's centers in order to help you (1) understand the behavior of little children; (2) to study the physical, mental, and social growth and development of young children; (3) to study techniques and skills in caring for them. This kind of study leads to a better understanding of your own personality development and behavior.

The sequence of suggested observations is as follows:

1. Physical environment of the nursery school and the health practices carried out there.

2. The children themselves—the name of each child, his age, coloring, obvious personality traits, length of time in school, etc.

3. Child-adult relationships with special reference to techniques used by adults to help children learn how to meet difficult situations.

4. Children's routine activities—washing and toileting, resting, eating, dressing.

5. Child-child relationships, looking especially for situations which show how children are learning to cooperate, share, show kindliness and courtesy, play together, settle disputes, exercise self-control, etc.

6. Play materials, with special attention to ways in which children use materials for (*a*) active physical play, (*b*) creative and manipulative play, (*c*) imaginative and dramatic play.

7. Books and stories, with special reference to adult techniques in using this kind of material.

8. Music, with special attention to ways in which adults help children to develop musical understandings, skills, and appreciations.

9. Creative work, with special reference to ways in which adults can help children to release their creative energy.

The plan is for students to discuss each main topic before and after they have made their observations, and then to write their reports, conforming more or less to the following outline (which they

have presumably kept in mind while observing or assisting):

1. What is the child learning?
2. How is the adult helping him to learn?
3. What is the principle involved?
4. What is the child apparently *thinking, feeling?* What is he *doing?*

This kind of thinking about children can hardly fail to be stimulating to the boys and girls who do it. As attention travels from one learning experience to another in the nursery school situation, the essentials of education for happy, wholesome, democratic living are highlighted. Soon students begin to see what is involved for themselves, as well as for nursery school children, in "personality development." Final clarification and generalization on the basis of observation and questions take place in the classroom.

Happenings in the Nursery School

To bring more closely together the classroom work and the field experiences of high-school students in child development courses, the preschool consultant is experimenting, this year, with the preparation of illustrative material for the classroom teachers' use, based on actual happenings in the nursery school. This is being done by the consultant because the high-school teachers seldom have time to accompany their students to the nursery school for their field work. The following example illustrates the kind of situations selected for description, and the way in which these situations are prepared for group discussion:

The Incident

One day Joan came in from play with very dirty hands. The adult showed her how to rub the soap on, saying:

"Rub the soap. Scrub hard. This way."

Joan seemed to enjoy the process.

The adult encouraged her, saying:

"That's right. You can do it."

Questions for Discussion

1. What was Joan learning to do when she had dirty hands?
2. How did she feel about this washing experience?
3. What did the adult do and say to help Joan learn to wash?
4. What principle, or principles, does this incident suggest that would apply in any routine situation where an adult is trying to help a child form good habits and attitudes?

In a number of places where classes in parent education and child development are part of the regular adult education program, Extended School Services are furnishing excellent opportunities for the observation of children of different ages. Mothers visit nursery schools and programs for older children singly or in groups. They study the children's behavior in relation to (1) the environment provided, including equipment and (2) the behavior of adults in the situations they observe. Later they discuss what they have seen and draw conclusions with the help of their own leaders.

Utilizing Group Activities

Nearly all plans for preparing volunteers to help with community child-care projects include some actual experience with children as a basic part of preservice training. Here again the facilities provided by ESS for student observation and participation in children's group activities can be profitably utilized. In Salt Lake City, Utah, directed observations were regularly scheduled at designated centers for each day of last year's training course for volunteers. An hour and a half was set aside each morning for interpretation of observations made the day before.

In the New York State program for the selection and training of volunteers as child-care aides, one of the routine duties of the subcommittee on training is to schedule appointments with appropriate agencies for trainees to observe and participate in the care of children. The Oklahoma State plan for training child-care aides calls for 24 hours of such directed observation. As the ESS program develops, more and more centers will be qualified to render this type of service.

One outcome of such recent efforts to vitalize class work in child development, family relations, human growth and development and related areas has been the discovery that students can be useful in helping with the work of nursery schools, day-care centers, and playgrounds long before they have finished their formal courses. In consequence, many communities are combining education and service, particularly at the high-school level, by recruiting volunteers for child-care programs, and training them on the job.

Training Volunteers

An elaborate plan for recruiting and training high-school volunteers for community war services has been developed in Syracuse, N. Y., under the auspices of the New York State Home Economics Association. Recruits are known as "Wheels," members of the Women's Home Economics Emergency Land Service." Girls are being trained for a variety of jobs in connection with community projects for families and children. Here again, wherever possible ESS facilities are used to provide both preservice and in service field experience. The organization is issuing a series of pamphlets to help orient girls on their jobs.

There are, of course, many practical difficulties to be overcome in such cooperative programs where the points of view and the schedules of different people have to be adjusted to each other. Experience is showing that most of these problems are surmountable when there is a common wish to find good solutions. It is important to remember, however, that no amount of good will can extract sound educational values from a situation which is not, itself, educationally sound. Before facilities for observation and participation in any child-care program can be utilized as educational opportunities, they should meet the usually accepted standards for the type of organization, administration, teaching, and equipment involved. A professional group concerned with improving the contribution of the high-school teacher in such cooperative projects, recently agreed that efforts should be made to meet the following conditions in any situations to be used for student field work:

1. Observation and participation in nursery schools and playgroups should be part of a total educational program in which visits to other agencies, group discussions, and other student activities are closely related to the basic work experience.

2. Observation should be competently directed. The "see what you can" method of procedure may, by chance, produce some educationally important results but, in the long run, students seem to learn more, and to learn more accurately if they have experiences that are reasonably sure to contribute to the specific learnings desired or expected.

3. Both observation and participation should be carefully supervised, so that wrong learning does not result, and unnecessary misunderstandings do not arise.

4. All agencies and organizations included in a cooperative school-ESS program of child development teaching should work toward having (*a*) the same philosophy of education; (*b*) the same understanding of children's basic needs; (*c*) consistent ways of helping children to meet their needs.

5. Schools wishing to provide "off-campus" field experiences for students should also provide for as much flexi-

bility as possible in the programs of both teachers and students, so that full advantage may be taken of unexpected learning opportunities as they develop in the nursery school or in before-and-after-school groups.

6. Adequate provision should be made for discussing reports of observations and participation, so that students are encouraged to think analytically of these experiences and helped to make correct deductions.

Communities which have well organized and well-supervised ESS programs have a new educational resource of great potentiality. Among the most enthusiastic advocates of the observation-participation-discussion plan for studying child behavior are high-school and college students who have tried it. The following "remarks" on the back of an observation sheet turned in to a high-school teacher by a little girl who had spent the morning watching little children in a nursery school reflect the sentiments of many of her fellow-students:

"I think," she wrote, "that it is a fine thing to be able to observe children in a nursery school. Some day I would like to do this with a mixed group of sensible boys and girls. After all, some day we are going to have children of our own. I know I want them, and if the classes were mixed you could observe what the opposite sex likes or dislikes about children. Then when you have your own you can raise them so they won't annoy a hard-working father."

An experience which can make this contribution toward family life education seems well worth the effort necessary to organize and guide it.

Schools wishing help in developing opportunities for student observation and participation in child activities through the Extended School Services Program as part of a larger instructional program in child development may communicate with the U. S. Office of Education. The Office will appreciate hearing from schools which are successfully carrying on such programs, so that arrangements may be made for exchanging information.

Typewriter Regulations Eased OPA Announced

As a result of decreased Government requirements for used typewriters and the resumption of limited production of new machines, the Office of Price Administration announced an easing of its rationing regulations affecting rentals and sales of used typewriters.

All models of used typewriters, including the most recent, may be rented by those persons desiring them, beginning December 1, OPA said.

After that date, rentals of office-size typewriters manufactured since 1935 (class A) will be placed on the same basis as older (class B) machines. This means that they may be rented with or without local rationing board certificates. Priority in the rental of machines, however, must still be granted to persons who hold rental certificates—given to those needing the typewriters for essential war work.

The action also releases for unrestricted sale office-size typewriters built before 1924. Until this change, the only office-size typewriters that generally could be sold ration free by the trade were machines made before 1915.

Portable Machines Released

Portable machines built before 1941 are also released for unrestricted sale. All typewriter stocks in the hands of manufacturers, wholesalers, and retailers that still cannot be sold ration free are identified by listing models and serial numbers in the amended regulation.

Although the regulations still provide that in general no office-size typewriter manufactured after 1924 may be sold to a private user by the trade, another section of the revision allows anyone having only one machine of any class to sell it, but only to a person using it for business purposes.

Relaxation of the typewriter rationing regulations was made possible by the recent WPB order allowing the manufacture of new machines on a limited basis. Another factor in the decision to make additional machines available to the general public is the curtailment of the Government's program of buying up all modern machines in the hands of dealers.

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Recordings on the People of China

If you and your high-school or college students would hear Pearl Buck, Lin Mousheng, and other well known writers and interpreters of China and the Chinese speak in an authoritative, yet highly interesting manner, you may soon have your wish realized. You will, if your school or organization has the equipment with which to play 16-inch recordings (33⅓ r. p. m.) and if you will write to the Educational Radio Script and Transcription Exchange, U. S. Office of Education, Washington 25, D. C., for a loan of the seven recordings which are described below. There are no charges for loan or for shipment either from or to Washington. The titles of the recordings and the speakers are:

"Introduction to the Series: China Speaks to America." Pearl Buck.

"Life in China Today," J. Y. Yen, visiting Chinese journalist and correspondent for Ta Kung Pao, China's leading newspaper.

"40 Centuries of Chinese History," Elizabeth Seeger, author of the *Pageant of Chinese History* and teacher at the Dalton School, New York City.

"What Confucius Really Said," Lin Mousheng, author of the recent book *Men and Ideas—An Informal History of Chinese Political Thought* and editor of *Contemporary China*.

"Chinese Humor," Pearl Buck.

"China's Contribution to the West," B. A. Liu, China Institute in America.

"The Fighting Chinese," Agnes Smedley, for several years Chinese Red Cross Medical Corps investigator on battle fronts and author of the *Battle Hymn of China*.

In a recent special audition of these recordings by a group of teachers in the District of Columbia schools, there was general agreement that advanced senior high school and college students would find in them pertinent information which would help to develop a better understanding of the life and culture of the Chinese people. High-school students—2,251,500 of them—can be reached in their schools with messages recorded on 16-inch transcriptions playable at 33⅓ revolutions per minute. This is one of the facts uncovered in a recent survey conducted by the Federal Radio Education Committee, U. S. Office of Education.

Most of the instructional techniques and devices normally used by resourceful teachers in connection with other teaching aids can be employed in using transcriptions. Schools possessing the necessary equipment are urged to take advantage of this opportunity.

The recordings described above were made available to the Office through the courtesy of The East and West Association, New York City.

Inter-American Educational Relations

Inauguration of Opening of Portuguese Classes

The inauguration of the opening of Portuguese classes in the New York City Public Schools was held November 23, in the auditorium of Central Commercial High School. Speakers included James S. Carson, Chairman of the Foreign Education Committee of the National Foreign Trade Council, Inc.; his Honor, Fiorella H. LaGuardia, mayor of the City of New York; the Honorable Alberto Bonaschi, a member of the Board of Higher Education of New York City; and Oscar Correia, consul general in New York. Gordon R. Mirick, assistant director of the Division of Teachers College and School Experimentation, who presided, addressed the meeting on the need for the study of arts, crafts, customs, folklore, and music of the particular country whose language a United States student may be studying.

One of the features of the program was the presentation of the Brazilian flag to the school by Sonia Correia, daughter of the consul general of Brazil in New York City. Joseph Casino, president of the Student Council of the Central Commercial High School, accepted the flag.

Development of Program

The Horace Mann-Lincoln School in the summer of 1942 gave an intensive course in the language under the direction of Senhora Maria de Lourdes Sa Pereira, technical adviser to the Minister of Education of Brazil. This first course was given in cooperation with the Office of the Coordinator of Inter-American Affairs. Many of the pupils who made up the enrollment of this original class are continuing their work in the language this year.

The New York City Board of Education last summer passed a resolution authorizing Portuguese to be taught in Central Commercial High School, Technical Evening High School, and Washington Irving High School. The Curriculum Council of the Board of Education expressed itself in sympathy with this resolution and authorized the attendance of public-school students in the beginning class of Portuguese held at the Horace Mann-Lincoln School. This class has among its members students from seven public schools.

Dr. Mirick's proposal that Portuguese be accepted for admission to colleges on the same basis as French and German has been submitted to a number of institutions. The following institutions have accepted Portuguese for admission: Barnard, Columbia, Hofstra, Wellesley, Smith, Queens, and Long Island University.

Peruvian Schools Celebrate Columbus Day

Columbus Day, or, as it is known in Latin America, el Día de América was celebrated last October 12 by special ceremonies throughout Perú; many festivities throughout the Republic commemorated this day important to all 21 American republics, and thousands of young Peruvians of school age participated in special athletic programs.

In Perú el Dia de América was celebrated, according to Señor Jorge De Ramana, Secretary of the Pan American Congress of Physical Education, as the day in which the idea of America itself was given to the world. The youth of Perú in their ceremonies expressed again on this occasion their belief in the postulates of freedom and continental solidarity, and the spirit of unity of the Americas, symbolized in Latin America by such figures as San Martín, Bolivar, and O'Higgins, and in the United States by Washington, Jefferson, and Lincoln. Plans are now being made in Perú for an even greater celebration October 12, 1944.

Pan-American Club Honors Memory of Colombian Patriot

The Pan-American Club of Miami (Fla.) Senior High School recently honored the memory of Francisco de Paula Santander, patriot contemporary of Simón Bolívar and former president of Colombia. The club president placed a wreath at the foot of the school monument to Santander while other club members held the flags of Colombia and the United States. The Consul General of Colombia in Miami, Señor Gabriel Saravia, attended the ceremony.

The monument, topped by a bronze bust of Santander, was unveiled on the Miami Senior High School campus in 1940 to commemorate the first centenary of the Latin American patriot's death. At the same time, the park in front of the school was named Colombia Plaza.

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FTA Organizations

The State of Iowa has two principal ways of pretraining teachers for the schools. One of these is through higher institutions which have departments for the training of teachers; the other is through normal training courses offered in high schools of the State. In both types of institutions prospective teachers have an opportunity to join Future Teachers of America organizations. A directory recently issued lists 83 such FTA clubs in normal training high schools and 25 in Iowa colleges. Some of these clubs are named for educators: There are four Agnes Samuelson clubs, four Homer Seerley clubs, two Jesse Parker clubs, two Mary Lyon clubs, and two Horace Mann clubs. Other group names are Progressive Pedagogues; Social Efficiency Circle; the Teachers Fraternity; and the Pedagogical Science Club.

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High-School Equivalency Program

A high-school equivalency program for adults has recently been adopted by the Indiana State board of education, according to announcement by Clement T. Malan, State superintendent of public instruction.

This program provides that any adult wishing to complete his high-school education may do so under local school control without having to return to regular high-school classes. Under the guidance and direction of the county, town, and city superintendents of schools in cooperation with high-school principals and teachers of the subject matter, work is given adults which when completed satisfactorily entitles the student to his high-school diploma, irrespective of age. "It is our hope," states Dr. Malan, ". . . that we may stimulate our whole population that does not have high-school diplomas to work toward that end."

☆ Higher Education and the War ☆

Government Activities

Army Specialized Training Program

Graduates Assigned

Nearly 2,000 enlisted men have been graduated from the A. S. T. P. and have been assigned to a wide variety of responsible duties in nearly all the arms and services, according to a statement recently issued by the War Department. This total of assigned graduates constitutes more than two-thirds the number of soldiers who entered the inaugural term of A. S. T. P., April 12, 1943. The report indicates that the flow of graduates will increase greatly in the coming months as courses are completed. By spring of 1944, the rate of graduates will exceed 10,000 a month.

A survey of the disposition of a number of sample groups of graduates indicates the facility with which the A. S. T. P. has operated to meet the immediate needs of the Army, according to the War Department.

For example: Two hundred graduates have been assigned to Army Air Forces medical and psychological examining units. They have received ratings as line sergeants, and they will process aviation students who are screened for aptitudes and qualifications early in their training. More than 100 others were assigned to Army Service Forces, where they are conducting a classification survey. Some have gone to the Sanitary Corps, and are performing their duty in such a manner that the Surgeon General's Office is increasing nearly fourfold its requests for A. S. T. P. graduates in that corps. Assignments to the Corps of Engineers have included civil engineers, chemists, chemical engineers, mechanical engineers, and architects. Several hundred graduates in medicine have been appointed in the appropriate corps of the Medical Department.

Many A. S. T. P. soldiers are being given responsible overseas assignments. A number of graduates have been selected for officer candidate schools, among them the Transportation Corps O. C. S. and the Corps of Engineers O. C. S. The A. S. T. P. is not to be regarded, however, as a sure road to a commission, since A. S. T. P. graduates must compete with all other enlisted men for selection to fill the limited quotas in the O. C. S. Although the trainees' chances for advancement are enhanced by successful completion of their courses, with officer training a possibility, the primary aim of the program is to train soldiers for the highest duties they are capable of performing in specialized fields where the Army has greatest needs.

The A. S. T. P. having reached the peak of its trainee allotment, the size of future quotas of entering classes will be determined by the outflow of graduates and losses due to attrition. The number of soldiers generally eligible for consideration for the Program is greatly in excess of the number of current openings. This situation is expected to continue indefinitely. Only soldiers with the highest qualifications can be selected for admission.

Academic Credit for A. S. T. P.

The Advisory Committee of the Army Specialized Training Division, which is composed of the presidents of 10 colleges and universities, has made the following recommendation to the institutions at which units of the A. S. T. P. are placed:

"It is recommended that all students of A. S. T. P., while in residence, be registered in the institution as regular students and be given academic credit in accordance with the rules and standards adopted by the institutions, with the understanding that these standards be those of the various recognized accrediting agencies."

A. S. T. P. Units in Operation

In December 1943, the Chief of the Curricula and Standards Branch of the A. S. T. D. reported that 223 A. S. T. P. units were in operation at colleges and universities, as follows:

Field	*Units*
Basic Phase Curriculum	168
Advanced Engineering (in 5 different curricula)	71
Premedical (to be expanded to about 50)	10
Area and Language Studies (giving instruction in 18 European and 14 Asiatic languages and the appropriate areas in which these languages are used)	55
Personnel Psychology (in 4 units this instruction has been completed)	8
Preparatory Work for the U. S. Military Academy	3
A. S. T. P. Reserve	45

Institutional Activities

Fellowships for Graduate Study and Research

Approximately 60 fellowships and teaching fellowships varying in amount from $450 to $1,500 will be available for students in 1944–45 at Radcliffe College. The college is now operating on a 3-term year, with students entering in March, July, and November. Awards are made for 2 terms, the equivalent of the former academic year. The awards with the larger stipends are granted to those who have done at least 2 years of graduate work. The preference in making the smaller awards is given to students who have completed 1 year of graduate work, although several $450 tuition fellowships are available to students who have done no graduate work but who evidence high scholarship.

Advanced study under members of the Harvard University faculty is open to women candidates for the degrees of master of arts and doctor of philosophy in a number of fields.

Post-War Plans

In planning its post-war service, the New Jersey College for Women has chiefly in mind the needs of women returning from military status to civilian life who desire to resume their interrupted education. The fact that these women "will bring with them skills and aptitudes and professional competence, as well as experience in jobs and a maturity of outlook far beyond anything that the ordinary entering college student can muster in peacetime," must be taken into consideration. As to the type of education offered by the college in relation to the needs of these women, the president in his report says:

"The educational experience which New Jersey College for Women is prepared to offer is that of a liberal arts college. This is a much misunderstood term and a word of explanation may be in order. Students of the liberal arts are not impractical dilettantes at a few fashionable scraps of knowledge that are of no use in earning a living. Nothing is farther from our minds than to set such

a fare before a group of women returning from an intensely practical experience.

"There is no conflict between the liberal arts and training for a career; on the contrary, they supplement and mutually support each other. Many of the returning service women will be thoroughly trained or will at least have considerable experience in one or another of many practical fields. Among them there will be secretaries, nurses, nutrition experts, statisticians, chemists, physicists, and engineers. They may want to build one of these experiences into a career and make it their life's work. But for all their training and experience, they will be lacking a college degree, without which they cannot exploit their training fully or carry on their chosen career at its highest level of productiveness. For these, a liberal arts college offers the widest opportunities to fill in the gaps and to round out and integrate their education.

"* * * An intelligently chosen program of liberal studies built up around a rational purpose should aid the prospective student returning from war service both in understanding the complex civil life of which she is again a part and in finding a better niche in it for herself."

Preparation for Overseas Service

While its main field is that of the liberal studies, attention is called to the programs offered by the college for specific preparation for various careers—teaching in the usual academic fields and in special subjects as home economics, physical education, art and music; library science; journalism (in Rutgers University School of Journalism); and special types of Government service. In addition to these, there has been set up a program of training for overseas service which "can easily be adjusted to the individual needs of the returning service women," who "by virtue of their war experience, will be unusually adapted to this kind of work." The program consists of three phases: (1) the acquisition of a special skill; (2) the acquisition of a speaking knowledge of a foreign language; and (3) area training for the region of that language, patterned after the foreign area training course of the Army. Thus far, French and German area training have been arranged for; others may be added.

Among the special skills referred to are training in accounting; foreign shipping; business practices; nutrition; clothing; library service; premedical (foreign service upon completion of medical training); secretarial work, including typing in a foreign language; and actual government practices, notably in local government. "All of these skills can be acquired in whole or in part by a careful selection of courses."

Students who successfully complete the above types of study will be granted a "Statement of Training for Overseas Service."

Program of Readjustment

The college has in contemplation a program designed particularly for the benefit of returning servicewomen seeking readjustment to home and civil life. It will arrange individual programs focused on principal interest, whether "literary, political or social." In this connection, a curriculum in "family living" of 1 year's duration, is tentatively planned. In it, attention will be given to the needs and desires of the prospective homemaker and not to professional training or to requirements for a degree or to the acquisition of professional competence.

Admission Requirements for Returning Servicewomen

A different set of entrance criteria is proposed for returning servicewomen, some of whom will not have completed high school, but who will be older than high-school graduates and will possess a background of training and experience which should fit them for college work. The criteria proposed are: (1) The applicant must have a serious purpose; (2) the program she desires must be feasible; (3) she must be capable of doing college work. On the basis of such aptitude and achievement tests as might seem desirable, records of previous educational accomplishment, and the nature of the individual's experiences and training in the services, the admissions committee would work out a curriculum for the individual student to follow to obtain the bachelor's degree.

Cooperative Rehabilitation Training

Three neighboring divinity schools in Berkeley, Calif., the Pacific School of Religion (interdenominational), Church Divinity School of the Pacific (Episcopalian), and the Starr King School for the Ministry (Unitarian), have arranged a special intensive program on the graduate level, intended primarily to train short-term emergency workers for postwar rehabilitation abroad. All of the resources of the participating divinity schools have been made available for the special program, which was made possible by a grant from the Columbia Foundation of San Francisco, gifts from individuals, and a scholarship grant from the Agnes Wilson Osborne World Friendship.

The program calls for the coordination of a variety of teaching resources and other leadership available in the San Francisco Bay area. For example, the University of California, whose campus is adjacent to the cooperating divinity schools, provides a wide range of pertinent courses and instructors. The schools may also, at need, draw upon the nearby College of Chinese Studies, and the extension divisions of the local boards of education.

Some of the specific problems with which the courses of the participating divinity schools are intended to deal appear in the following statement issued by the schools:

"With many of the major spiritual blights in areas over which the shadow of war has swept back and forth, governments will be able to concern themselves at most indirectly and incidentally. There will be problems of the recovery of the capacity and courage to trust people again. There will be the conversion of emotions of revenge into constructive channels of community rebuilding. There will be the revival of the sheer will and grit to live and take up life again. There will be the restoration of family life. There will be the incorporation of uprooted and vagrant individuals into wholesome groups. There will be religious institutions that need strengthening. There will be the establishment of colony schools on the land for orphans and the setting up of work camps for dislocated and unemployed youth. For these and many other spiritual as well as material problems of personal rehabilitation and community rebuilding, the cooperation and collaboration of private agencies will be desperately needed."

The course consists of a year of basic training, divided into six periods of 8 weeks each, with approximately 16 to 18 hours of class work a week. In addition, every student is expected, on week ends, during the greater part of the year, to engage in some kind of relevant field work, such as work camps, control of juvenile delinquency, interracial projects, social work, etc. Credit toward theological degrees is arranged in terms of each individual student's situation.

The course opened on September 6, 1943, with two areas selected for study—Central Europe and China, and will close August 25, 1944.

SECONDARY EDUCATION in WARTIME and the HIGH-SCHOOL VICTORY CORPS

Loan Packets on Secondary Schools

The loan packets entitled *Secondary Schools in Wartime* have been revised and are now available to teachers, school administrators, and librarians. Fifteen publications have been assembled into a collection, intended to acquaint readers with programs and recommendations which may be adapted to different school situations. Materials have been furnished by the departments of education of Connecticut, Louisiana, Missouri, and Pennsylvania; the Los Angeles County Schools; the State University of Iowa, the University of Minnesota, and the University of Pittsburgh.

One of the most recently published items is *Adapting the High School to Wartime and Postwar Needs*, prepared by the staff of the University High School, University of Minnesota; another is *Secondary School Credit for Educational Experience in Military Service*, from the National Association of Secondary School Principals. Two reports of the Educational Policies Commission have been retained from the original packets: *A War Policy for American Schools* and *What the Schools Should Teach in Wartime*. A recent publication of the U. S. Office of Education has been added, *Correspondence Study in High-School Wartime Programs*, which describes one method of achieving some of the objectives of the High-School Victory Corps. The manual, *High-School Victory Corps*, and *Secondary Schools and the War Effort*, both Office of Education publications, have been carried over into the revision of the packets.

In addition to the general outlines concerning curriculum developments in secondary schools, one special phase has been brought to the attention of borrowers in *Education for the Air Age*, issued by the Civil Aeronautics Administration. For further study of this subject teachers are urged to write for the loan packet on *Aviation Education*, recently brought up to date by the addition of a number of new publications.

To obtain a packet on *Secondary Schools in Wartime* for 2 weeks' loan, write to Information Exchange, U. S. Office of Education, Washington 25, D. C., specifying *Packet I–S–1*. There is no expense to borrowers, since franked labels are furnished for their return without payment of postage, when packages do not exceed four pounds in weight. A catalog listing 75 titles of packets on a wide range of subjects is available free upon request.

VICTORY CORPS

News Notes From the Schools

The Production Service Division of the Merrill High School (Merrill, Wis.) is publicizing the rest of the Victory Corps by issuing a news bulletin *What's What in the Victory Corps*.

VC

A survey of 158 New Jersey high schools revealed that pre-aeronautics courses are being taught in 124 schools, refresher mathematics in 97, foundations of electricity in 88, radio code in 88, fundamentals of machines in 71, special physical education in 71, home nursing in 65, radio in 56, auto mechanics in 41, and navigation in 36.

VC

The Civil Air Patrol reports expansion of its cadet program to train young people between 15 and 17 in military and aviation subjects. "In a number of localities," a recent release states, "this program has now reached the point where entire high schools are joining up, several hundred boys at once. It is to develop the necessary organization and to prepare instructors for training these future airmen that CAP is building up its own ranks at this time."

Transfer of PIT Branch

The Pre-Induction Training Branch, Army Service Forces, has been transferred from the Industrial Personnel Division to the Office of the Director of Military Training, A. S. F., under Brig. Gen. Walter L. Weible. Col. William E. Watters has been appointed Chief of the Branch.

This transfer, a part of a general reorganization of the various training programs in the Army Service Forces, brings the Pre-Induction Training Branch into closer contact with the various branches concerned with post-induction training.

The Pre-Induction Training Branch will continue to work through regular school channels, namely, the U. S. Office of Education and State departments of education, in familiarizing schools with Army needs which may be met through training on a voluntary basis prior to induction. The following officers are assigned to the nine service commands for the purpose of advising and assisting in pre-induction training matters:

First Service Command

Capt. Frederick A. Zehrer
Pre-Induction Training Branch
Room 309, 808 Commonwealth Avenue
Boston 15, Mass.

Second Service Command

Maj. Charles F. Dienst
Pre-Induction Training Branch
50 Broadway
New York 4, N. Y.

Third Service Command

Capt. Harry L. Dotson
Pre-Induction Training Branch
Redwood and Calvert Streets
Baltimore, Md.

Fourth Service Command

Maj. Isaac N. Carr
Pre-Induction Training Branch
Fifth Floor Crumley Building
Atlanta, Ga.

Fifth Service Command

Capt. George L. Fahey
Pre-Induction Training Branch
631 Huntington Bank Building
Columbus 15, Ohio.

Sixth Service Command
Maj. Arthur K. Vincent
Pre-Induction Training Branch
1907 Civic Opera Building
20 North Wacker Drive
Chicago, Ill.

Seventh Service Command
Lt. John R. Rackley
Pre-Induction Training Branch
322 Soidley Building, Fifteenth and Dodge Streets
Omaha 2, Nebr.

Eighth Service Command
Lt. Col. Jay Dykhouse
Pre-Induction Training Branch
908 Santa Fe Building
Dallas 2, Tex.

Ninth Service Command
Maj. Calvin Behle
Pre-Induction Training Branch
Room 406, 450 Mission Street
San Francisco 5, Calif.

Victory Corps in the Magazines

The Chemistry Club of the SENIOR HIGH SCHOOL at White Plains, N. Y., tested samples of soil for neighborhood Victory gardeners last summer and suggested the types of fertilizer that would be most helpful. Standard procedures were established and formal application and report blanks developed.

Started as a Victory Corps activity, the project was successful from both the student and gardener viewpoints. A detailed description of the methods and accomplishments of the Chemistry Club is found in an article titled "Soil Testing as a Victory Corps Activity," written by Franklin T. Mathewson, faculty adviser of the club, in the November issue of *Science Teachers News Bulletin* published by the New York State Science Teachers Association.

VC

James C. Means, principal of COMER HIGH SCHOOL, Comer, Ga., contributed "Wartime Education in a Small Rural High School" to the December issue of *Teachers College Record.* In it he explains the way in which his school, with an enrollment of 125 students, organized to fulfill Victory Corps objectives.

In the same issue of *Teachers College Record,* G. Franklin Stover, curriculum consultant in the Pennsylvania Department of Public Instruction, contributes "Organization and Administration of Local Programs of Pre-Induction Training," in which the programs developed in several high schools in Pennsylvania are described.

Army Air Forces Training Command

In July 1943, the Technical Training Command was merged with the Flying Training Command to form the Air Forces Training Command. This article is second in a series on the Army Air Forces, the first having appeared in the October 15 issue of EDUCATION FOR VICTORY *under the title "The Flying Training Command."*

Over a half million ground and air combat crew technicians have been graduated from the schools of the Army Air Forces Training Command during the life of this largest single command in the Air Forces. Every new officer and enlisted man assigned to AAF combat units since March 1941—except pilots, bombardiers, navigators, and some gunners—has passed through some part of the Training Command's Nation-wide network of basic training centers and technical schools.

This air power, which was destined from the start to turn the tide of global war, is sustained by these half million technical-school graduates. Headlined heroes who fly the planes, release the bombs, and chart the courses are a gallant minority kept aloft by the graduates of the AAF Training Command—the men who fulfill the TTC's motto, *Sustineo Alas:* "I Sustain the Wings."

Backbone of the Network

In a typical heavy-bombardment squadron, more than 300 of the 350 Air Corps troops are technicians—the men who service and repair the planes, operate the communications system, load the bomb racks, rig the parachutes, adjust the bomb sights, check the weather, and perform all the endless tasks essential to combat aviation. A good many of them "double in lead." They man the guns when enemy fighters attack.

Because of the size and complexity of the Air Forces Training Command, control is decentralized in five commands, with headquarters at Greensboro, N. C.; St. Louis, Mo.; Tulsa, Okla.; Denver, Colo.; and Miami Beach, Fla. Each command, headed by a general officer, controls the operation of all posts, camps, stations, and detachments within a clearly defined geographic area. The installations themselves—which number into the hundreds—fall into many different categories.

The backbone of the great technical-school network is formed by the schools which give basic and advanced instruction to enlisted men. This training includes basic instruction for aircraft mechanics, machinists, metal workers, welders, clerks, link-trainer instructors, parachute riggers, photographers, radio operators, radio mechanics, teletype operators, and weather observers. Advanced instruction is given in bomb-sight maintenance, power plants, electricity, instruments, propellers, weather forecasting, power-turret and gun-sight maintenance, radio, and related subjects.

Even this array does not present the complete picture. Technical as well as administrative commissioned personnel must be developed in a steady stream to command this army of technicians. Thus the Training Command has an Officer Candidate School and an Officers' Training School at Miami Beach, Fla., and an Aviation Cadet School at Yale University, where cadets study to be nonflying technical officers.

Feeding the technical schools are 10 huge basic training centers through which the raw material must pass for orientation, classification, and basic military training.

When you view this command structure in its entirety you see an immense, Nation-wide organization including every conceivable type of Army installation from the giant combined basic training center and technical school post like Keesler Field, Miss., or Sheppard Field, Tex., to the small closely knit factory school such as the depot overhaul training detachment at the Buick Motor Co. in Flint, Mich.

A Dual Objective

The training program has a dual objective. The technical curricula are aimed at graduating technicians who can start performing the duties for which they are trained the day after they graduate. Dovetailed with the technical instruction is a combined technical and military training program supplemented with a unique physical fitness plan, all designed to produce technicians who can defend themselves and their equipment against enemy attacks when called upon to do so.

Thus, the technical instruction is not of the classroom-lecture variety. It follows the "demonstration-performance" plan providing student participation. The ratio of students to instructors is kept low. Emphasis is placed on the actual physical process of making a certain repair, change, or adjustment in the quickest and most efficient manner possible. Job assignments are adapted to actual combat requirements. In the latter stages of every course, regardless

of the specialty, students are sent into "graduation field test areas" to develop resourcefulness and to get training in repair and maintenance under conditions likely to be encountered in crude, advance combat-zone airdromes.

Here the military training phase of the program comes into full play. The men work under battle conditions subject to mock air raids, gas attacks and surprise sorties by enemy patrols.

Emphasis on Physical Fitness

Throughout the entire program—both basic and technical—emphasis is placed on physical fitness. Carefully selected physical education experts direct the program and many innovations have been incorporated, including a special course in military aquatics, a new type of conditioning exercise to replace the old-line Army calisthenics program, a unique phase called "combatives" with emphasis on judo and jiu-jitsu. The entire program is cut to the pattern of combat conditions.

All phases of the training program—basic, technical, military and physical—are based on the fundamental concept of effective combat aviation which recognizes the vital interdependence of ground and air crews. General Yount says, "There is a strong relationship between the training of pilots, bombardiers, and navigators, and the training of equally heroic technicians. There is—and must be—a mutual respect between the airmen and the technicians. It would be fatal for the pilot to distrust the men who have charge of the plane's maintenance.

This concept is drilled into AAF Training Command students from orientation to graduation. When they go to their combat assignments they carry with them a keen sense of the heavy responsibility which rests on their shoulders.

Counseling Questions And Answers

Army Air Forces Training Command

What are the opportunities for boys in ground crew training at present?

None. There are no opportunities because there are enough men.

What are the opportunities in flying training, air crew?

Thousands of boys are urgently needed for training.

Can a boy count on securing flying training if he applies?

No. He must have certain mental and physical qualifications which the majority of boys do not have.

If you are eligible by age and are thinking about entering flying training, what should you do first?

Consult your school counselor to determine your physical condition and your mental ability both to keep up with the type of men taking flying training, and to succeed in the type of subject matter involved, i. e., science and mathematics.

Are the boys drafted for air crew training?

No. Those accepted for training must volunteer for the work.

Is it necessary after volunteering, to take an examination?

Yes. The examination is psychological in character and has little to do with academic achievement. Its main purpose is to measure aptitude for the work.

Is academic achievement a factor in training?

Not in the first examination. It is vitally important in training however if one expects to complete the required course.

How thorough is the physical examination?

It is a stumbling block to many applicants and is reputed to be the most rigid of all Army services. Recently however the eye examination requirements have been lowered so that a man with 20/30 vision may pass; formerly 20/20 vision was required.

What are the age requirements to become bombardiers, navigators, and pilots?

To be eligible men must be between the ages of 18 and 26. Those 17, but not yet 18, may apply for enlistment in the Air Corps Enlisted Reserve.

May 17-year-olds who volunteer for the Army Air forces select some other service after they pass required examinations?

No. A volunteer who passes the required examination has his name placed on the enlisted Reserve list, and must go with the Army Air Forces. The Army Air Forces has priority on his services.

Is it possible for a man in A-12 training to decide later to be an aviation cadet?

Yes.

Should a boy wait until he is 18 to volunteer for training?

Some boys are graduated from high school younger than others. If a boy is about to be graduated between 18 and 18 years 6 months, the draft board can pick him up at 18, and he may not continue postgraduate work. However, if he took the cadet examination at 17 years of age, he could state whether he wishes to be called at 18 years of age or at 18 years 6 months. This allows opportunity for several months further education.

If a boy is 18 and hasn't been called, but expects to be called, what is the quickest way to become an aviation cadet?

Take the aviation cadet examination. The board then gives the boy a paper which he presents to his local draft board, and he applies for voluntary induction following his passing the examination. He then goes straight into the Army Air Forces instead of taking the 13 weeks of basic military training.

Wartime Teaching Aids

The Teacher of English and the War Savings Program. Prepared by the National Council of Teachers of English for the Education Section, War Finance Division of the U. S. Treasury. The illustrated bulletin contains units for junior and senior high schools on "Saving for Victory," and lists teaching materials and aids. Available free from the War Finance Division of the Treasury Department in each State.

Winston Churchill—Prime Minister. Selections from speeches made by the British Prime Minister during the 4 years that Britain has been at war. Illustrated. Available free from the British Information Services, 30 Rockefeller Plaza, New York 20, N. Y.

High-School Drop-Outs

Announcement from State Supt. Clement T. Malan of Indiana reveals that 18,465 students have dropped out of Indiana high schools to enter employment or the armed forces since Pearl Harbor. Of these 7,465 were girls. Of the 11,000 boys who have dropped out of school, 2,975 did so in order to enter the armed forces; 8,025 quit school in order to go to work.

National Social Hygiene Day

February 2, 1944

Useful materials to help in bringing this subject before groups may be obtained from the American Social Hygiene Association, Inc., 1790 Broadway, New York 19, N. Y.

Essential Mathematics for Minimum Army Needs

Excerpt From Committee's Report

The following "Outline of Essential Mathematics for Minimum Army Needs" is an excerpt from a report prepared by a special committee on preinduction mathematics and published in THE MATHEMATICS TEACHER *for October 1943. This committee worked in conjunction with the U. S. Office of Education and the Pre-Induction Training Branch of the War Department. Its report is an extension of an earlier committee's report published in the April 1, 1943, issue of* EDUCATION FOR VICTORY, *under the title, "Pre-Induction Courses in Mathematics."*

The members of the committee conferred with Army officers directly in charge of training enlisted men, and observed basic training of Army inductees. A carefully prepared check list of 141 items, after being tried out in its original and revised forms with a dozen training officers, was used as a basis for informal conferences with a group of 96 training officers, and for item-by-item checking with 178 officers serving as instructors in basic training in 74 different kinds of Army jobs in Replacement Training Centers and Unit Training Centers in 8 States. The centers visited are representative of branches which together train 75 percent of the enlisted men in the Army.

The mathematics contained in the outline is that which is actually needed by nearly all men in their basic training. Every inductee might well have more than this minimum; but he cannot have less and meet successfully the demands of basic training.

The results of the committee's investigation show that the typical inductee does not have the training in mathematics which he needs. Young men about to enter the Army must be able to:

(a) Identify quantitative aspects of situations which confront them. (b) Deal with these situations by approximation and estimation when computation is not required. (c) Recognize and use the simpler symbolism of mathematics. (d) Tell when and how mathematical symbolism, concepts, and processes are to be employed. (e) Compute accurately, quickly, and intelligently when computation is called for.

The Outline

Reading and writing arithmetical symbols

1. *Whole numbers (to six digits).*—Serial numbers on identification tags and rifles contain as many as eight digits. Used in reading stock lists, equipment numbers, speedometer mileage, radio frequencies, blueprints.

2. *Common fractions (denominators of powers of 2 through 64; 3, 5, 6, 10 and 12).*—Fractions with denominators in the ten-thousands are frequently used in map reading. Used in indicating parts of an hour, a mile; sizes of wrenches, bolts, nuts, drills; reading the carpenter's square.

3. *Decimal fractions (to three places).*—In machine work it is sometimes necessary to read micrometer calipers to ten-thousandths. Used in indicating specific gravity of batteries; setting up correct frequencies in kilocycles; expressing caliber of projectiles; measuring spark plug gaps, valve clearances.

4. *Percents (to 100).*—In certain instances percents less than 1 are used to indicate composition of metals and the proportions of chemicals in solutions. The fractional equivalents of the dozen or so commoner percents should be memorized. Used in indicating percent of men assigned to details, apportionment of pay, proportions of ingredients in mixtures such as insecticides.

Counting

Counting by 1's, 2's, 5's, and 10's (to 500).—Used in counting off in the squad and in infantry drill; counting automotive units; pacing for determining distances; cranking heavy tank engines; counting number of men for mess.

Operations with whole numbers

1. *Addition (columns of not more than five addends of three digits each, and shorter columns of not more than six digits).*—Stock, mess, and supply clerks need to add much longer columns and to add short columns of numbers of more than six digits. Used in determining daily mileage for reports, amount of ammunition and materials consumed, total circuit resistance, total number of men.

2. *Subtraction (number of not more than six digits).*—Used in reading map grids; determining directions; computing distances; determining the age of parachutes and pneumatic equipment in order to check their safety.

3. *Multiplication (numbers of four digits by numbers of two digits).*—Calculation of total amount of rations, ammunition, and company supplies involves larger numbers. Used in finding distances when time and rate are given; keeping personal budgets; figuring costs; substituting in orientation formulas.

4. *Division (numbers of four digits divided by numbers of two digits).*—Division of numbers of six digits is used in dealing with radio frequencies; reduction of map scales; estimation of quantities of materials in concrete construction. Used in determining direction and elevation of sight; rationing of supplies and ammunition; changing units of measure, as from inches to feet.

Operations with common fractions (denominators of powers of 2 through 64; 3, 5, 6, 10, 12)

1. *Addition.*—Used in determining over-all dimensions from blueprints; computing total demolition charges; calculating seam allowances.

2. *Subtraction.*—Used in blueprint reading; finding tap and die sizes; calculating depth of cut in machine work.

3. *Multiplication.*—Used in determining amounts of ingredients in mixtures; finding weight of castings; calculating total weight of rivets for repairs.

4. *Division.*—Used in solving electrical problems involving Ohm's Law; calculating tubing lay-outs; making switchboard installations.

Operations with decimal fractions (denominators limited to 3 places)

1. *Addition.*—Used in finding total money value of rations (to thousandths of a cent); adding currents in legs of circuits.

2. *Subtraction.*—Used in determining mileage from speedometer readings; checking aircraft specifications; machine shop work.

3. *Multiplication.*—Used in finding correct frequencies in electrical work; windage determination.

4. *Division.*—Used in making switchboard adjustments; determining costs; laying out rivet patterns.

Part-whole relationships with common fractions, decimal fractions, and percents

1. *Finding part of a quantity.*—Used in making pay deductions; determining amounts to be mixed in insecticides, in cooking, in mixing concrete; computing dial settings; finding part of supplies to be drawn; determining number of parachutes to be kept packed in accordance with a fixed percentage.

2. *Finding what part one number is of another.*—Used in finding speeds when different-sized pulleys or gears are used, outputs of transformers; determining slopes in setting grade stakes, the portion of a company that qualify in marksmanship.

3. *Finding a number, given a part and its relative size.*—Used in calculating amount of product in Army baking operations.

Ratio and proportion

1. *Understanding of basic idea.*—Used in statements of concrete mixtures, relative speeds and feeds, fuel mixtures.

2. *Solving problems.*—Used in finding scales in aerial photographs; calculating speeds when different sizes of pulleys or gears are used; figuring slopes.

Powers and roots

1. *Finding powers (squares and cubes).*—Used in solving formulas.

2. *Finding squares and square roots from tables.*—Used in calculating sides of right triangles and diagonals of rectangles.

Graphs and maps

1. *Understanding grids and scales.*—Knowledge of the fact that the numerator of a representative fraction (R. F.) is a distance on the map and that the denominator is the distance on the ground is necessary in map reading. Such scales as 1/20,000, 1/62,500, and 1 inch=1 mile are commonly found on military maps.

2. *Determining directions from a map.*—Used in determining direction of travel to reach an objective; orienting one's own position; determining direction in heavy gunfire.

3. *Interpreting maps and graphs.*—Used in discovering the location of artillery, the command post, hostile forces; determining the height of points on a terrain (from a map showing contour lines); scouting and reconnaissance; radio and signal communication.

4. *Making graphs and maps.*—The enlisted man is not commonly required to make maps and graphs, except for rough sketches, but experience in making them is essential to proper understanding.

Tables

Reading from tables.—Reading to the nearest tabulated figure is all that is usually required. Used in finding the angle of elevation for an artillery piece from firing tables; making corrections for windage; determining type of ammunition; finding strength of materials, fractional equivalents; converting measurements.

Formulas and equations

1. *Understanding of simple algebraic symbolism, such as* $a, K, a^3, b^3, \sqrt{a}, a_2, \pi$.—Used in practically all branches of the armed services.

2. *Simple formulas to be memorized: area of circle, triangle, rectangle, volume of cylinder, rectangular solid; distance, rate, and time.*—Less used are the formulas for area of a parallelogram and of a trapezoid, and for conversion of temperature readings between Fahrenheit and centigrade.

3. *Substitution in simple formulas.*—Used in such simple formulas as indicated above and others as: $N=\frac{3}{4}A$ (demolition of a steel beam); $\frac{1}{R_T}=\frac{1}{R_1}+\frac{1}{R_2}+\frac{1}{R_3}$ (total resistance of three conductors in parallel). Besides these simple formulas others of a greater degree of complexity are widely used in some branches of the service. For example, the demolition formula:

$N=R^2KC$ plus a percent of N depending upon the size of N.

4. *Solution of simple equations, such as:*

$$3n=6 \qquad \frac{n}{3}=6$$
$$n+3=6 \qquad 2n-3=7$$
$$n-3=6 \qquad 2n+3=7$$

These equations usually result from substitutions in formulas.

Positive and negative numbers

Symbolism and meaning.—Used in indicating direction of flow of both alternating and direct current; machine gun firing tables; angle of sight instruments; calculating data for range cards on machine guns; determining direction; designating storage battery terminals.

Measurement, including understanding of basic units

1. *Length, weight, area, and volume.*—In many branches there is necessity for performing the fundamental operations with denominate numbers. Used in determining area of fire, storage tank capacity, firing tensions, load limits; placing poles in field wire communications.

2. *Temperature (C. and F.), angles (degrees, minutes, and seconds), time (24-hour clock).*—Temperature measurement is used in determining tension for a wire, condition of engines, condition of patients; angles are used in machine shop work, machine gun and mortar firing, map reading; determining the number of degrees of revolution of a rotating shaft. The Army uses the 24-hour clock.

3. *Metric system with simple equivalents.*—Used in medical measurements; radio repair; designating a gun caliber; dispensary supplies.

4. *Measuring instruments.*—Compass is used in determining directions; tape and rule are used in measuring lengths; protractor and compass are used in map reading; transit is used in road building and communications construction; calipers and dividers are used in the machine shop; steel square and level are used in carpentry; scales are used in measurement of weight.

5. *Limits of accuracy or tolerances.*—These range from the precise measurements in the machine shop, through the tolerances found in adjusting weapons, to the fairly rough estimates of road overhead clearances. Used in measuring spark plug and breaker point gaps.

6. *Estimation.*—Load that a bridge will bear, weight of a load on a truck, number of men in a group, height of aircraft, distance in scouting, range for firing, distance marched, speed of vehicles.

Geometric concepts

1. *Point; straight, curved, horizontal, vertical, oblique, parallel, and perpendicular lines; angle; and slope.*—Used in technique of fire; simple mechanical drawing and blueprint reading; map reading; setting the grade of a road.

2. *Triangle (right, scalene, isosceles, and equilateral), parallelogram (square and rectangle), trapezoid, circle, ellipse, and regular polygon; prism, cylinder, cone, and sphere.*—Used in cone of fire; aiming circle; machine cams, cylindrical drums; optical instruments; construction.

3. *Similarity.*—Used in relationships among automotive parts; pattern making; recognition of airplanes in flight.

Drawing and construction

1. *Use of ruler graduated in 32ds and in 10ths of an inch, and in millimeters; of compasses to construct circles; of protractors to measure and to draw angles.*—Used in preparation of parts for welding; radio repair, pattern making; laying out range charts; determining azimuths.

2. *Construction of a perpendicular to a line.*—Used in construction of bridges; machine shop work; the thrustline system of establishing a rendezvous; blueprint reading.

3. *Understanding of views of a simple object as given in a scale drawing, blueprint, or sketch.*—Used in fabrication of materials; motor mechanics; functioning of rifle; troop tactics; blueprint reading.

4. *Knowledge of the 3–4–5 relation of the sides of a right triangle.*—Used in carpentry; sighting mortars.

Miscellaneous

1. *Averages: mean, median, and mode.*—Used in calculation of average rations, average marksmanship scores; constructing a pace scale; Medical Corps statistics.

2. *Rounding numbers.*—Used in a great variety of calculations.

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Use of Victory Corps Aeronautics Aptitude Test in Guidance

The Victory Corps Aeronautics Aptitude Test has undergone, during the last year a vigorous investigation of its efficiency as a guidance instrument. Certain important facts have come to light. The test scores have been found to be positively related to success in school work prerequisite in airplane piloting and navigating and in bombing from airplanes. It was also found that the test scores were not related to maintenance work on airplanes on the ground. Consequently the test is discriminating, and can be used with confidence if its use is correctly understood.

Students receiving high scores may be encouraged to enter various scientific and mathematical courses in high school. This is true regardless of whether or not the student eventually enters the flying field. In other words, the test is an aptitude test for work prerequisite to the general engineering level, or the semi-professional engineering level, or for scientific work in college, including preparation for medicine. In this sense the test is much like other scientific or mathematics aptitude tests.

Counselors should be cautioned not to use the high scores on this test as indicating probable success in shop or maintenance courses. Other tests—mechanical aptitude and manipulative tests should be used for guidance work in such fields. However, high scores on both the Victory Corps Aeronautics Aptitude Test and a mechanical aptitude test can be used as indicating a high degree of engineering potentiality.

Sample copies of the Victory Corps Aeronautics Aptitude Test and norms of performance are available free from the U. S. Office of Education, Washington 25, D. C. The tests and accessory materials in quantity may be purchased from the Superintendent of Documents, Washington 25, D. C.

Libraries and the War

Information Campaigns

The Office of War Information has announced its calendar of information campaigns during coming months as follows:

January: WAVE recruiting.
February: Security of information; WAC recruiting, Taxes.
March: China, Child care, Red Cross campaign.
April: Victory gardens, WAVE recruiting.
May: Russia, Religious books, Cadet Nurse Corps, Air Corps Cadets.

O. W. I. seeks the active cooperation of libraries throughout the United States in featuring to their readers pertinent books and articles in line with the calendar suggested.

Security of War Information

The Office of War Information, in its recently issued *Library War Guide*, points to the continuing need for understanding basic facts related to security of war information, which may be supplied through libraries, books, and magazines.

It is felt that library services may prove valuable in showing readers (*a*) types of military and industrial information desired by the enemy, (*b*) types of misinformation spread by the enemy, and (*c*) ways in which the enemy works, through piecing together isolated bits of information, starting rumors opposed to national welfare, and sabotage.

Far East Collection

The annual library report number of *Wellesley College Bulletin*, for the year ended June 30, 1943, notes the Mayling Soong Foundation book collection in the college library. With aid from this foundation, Wellesley College has undertaken to add to its library books contributing toward a model undergraduate collection useful in teaching the history, civilization, art, culture, geography, religion, and philosophy of the Far East. The librarian's report further asserts that the library aims to become the center in the United States for primary sources covering the activities of Madame Chiang Kai-shek, a former student at Wellesley College.

Group Therapy Programs

A recent number of *The Medical Bulletin of the Veterans' Administration* includes an account of the group therapy program in the Veterans' Administration Facility at Augusta, Ga. An organized program, in which librarian and patients alike share, is directed to stimulate the interest of patients in using the library individually and upon their own initiative. About 18 hours a week are devoted at the Augusta Facility to group therapy programs consisting of music, reading, drawing, and talks presented to patients of various types. Through ward programs and a library club, problems of rehabilitation are attacked with the active cooperation of the hospital library.

Books Borrowed by Mail

For some years past, Oberlin College has extended to its alumni use of the college library by mail. A recent issue of *The Oberlin Alumni Bulletin* states that this service was planned originally for those living in areas remote from libraries, and points to current transportation difficulties as one explanation for increased patronage during the past year.

In addition, Oberlin men and women in the armed service comprise a new group of mail borrowers, interested especially in books on occupational counseling, psychology, physiotherapy, photography, map making, mathematics, physics, harmony, orchestration, orchestra and band conducting, as well as books on foreign countries and in foreign languages.

Increased Library Funds

More money for public-school libraries in North Carolina is available in 1943–44 than previously, according to a recent *Letter to School Librarians*, sent out by the director of school libraries in the State Department of Public Instruction.

The principal sources of library revenue in North Carolina public schools are the State Textbook Commission, which made available over $100,000 for school library books in 1942–43, and the State appropriation for public-school support, which allows $5 per teacher for school library maintenance (excepting furniture and equipment).

Other sources suggested by the director of school libraries were appropriations by local boards of education for library purposes, and supplementary gifts from the parent-teacher association, such as books, pictures, furniture, or other library equipment.

Educators' Bulletin Board

New Books and Pamphlets

Cumulative Records

Cumulative Pupil Records. A plan for Staff Study and Improvement of Cumulative Pupil Records in Secondary Schools, by Wendell C. Allen. New York, Bureau of Publications, Teachers College, Columbia University, 1943. 69 p. $1.25.

Suggests specific procedures and criteria that school staffs may use in a study and evaluation of their pupil record cards.

Guidance

The Counselor's Interview with the Student. By Norman Fenton. Stanford University, Calif., Stanford University Press, 1943. 36 p. 50 cents.

This is the second in a series of School Case Work Manuals which outlines methods found useful in school case work and also indicates the limitations of the school counselor in diagnosis and treatment. Presents the technique of the personal interview to assist the student in his adjustment problems.

Careers

Careers for Girls in Science and Engineering. By Evelyn Steele. New York, E. P. Dutton & Company, Inc., 1943. 189 p. illus.

Describes the opportunities for girls in physics, chemistry, geology, and biological sciences; electrical, aeronautical, chemical, mechanical, and civil engineering.

Democracy

Freedom Speaks. Ideals of Democracy in Poetry and Prose. Selected by George F. Reynolds and Donald F. Connors. Sponsored by the College English Association. New York, The Ronald Press Company, 1943. 270 p.

Presents ideas of freedom and democracy in terms mainly of imaginative literature; designed to be readily adaptable for collateral and supplementary reading in college English courses.

Post-War Plans

When I Get Out Will I Find a Job? By Maxwell S. Stewart. New York 20, N. Y., Public Affairs Committee, Inc., 1943. 31 p. 10 cents.

Based in large part on *Demobilization and Readjustment*, a Report of the Conference on Post-war Readjustment of Civilian and Military Personnel, published by the National Resources Planning Board. Includes a section on education and training.

Teachers

Better Selection of Better Teachers. By Vera M. Butler, Ida M. Jewett, and M. Margaret Stroh. Sponsored by the Delta Kappa Gamma Society. Washington, D. C., 1943. 110 p. $1. (Order from: Office of the Executive Secretary, 1909 Cliff Street, Austin, Tex.)

A research study, based on returns from a questionnaire, giving information and opinion on the problem of better selection of teachers.

Citizenship Education

Elementary Schools: the Frontline of Democracy. Twenty-second Yearbook of the Department of Elementary School Principals, National Education Association, 1943. Washington, D. C., National Education Association, Department of Elementary School Principals, 1943. p. 241–591. (The National Elementary Principal, vol. xxii, no. 6) $2.

Explores the meaning of democracy and the purposes of elementary education with respect to citizenship building; describes many programs which will suggest some new approaches in citizenship development.

Recent Theses

The following theses are on file in the Library of the U. S. Office of Education, where they are available for interlibrary loan.

Audio-Visual Instruction

Comparative Effectiveness of Pictorial Teaching Materials, by David J. Goodman. Doctor's, 1942. New York University. 30 p.

Attempts to determine the comparative effectiveness of selected forms of pictorial teaching aids, when used in teaching certain topics in safety education to pupils in the sixth grade using sound and silent motion pictures and silent and sound film strip.

Counseling with Teachers Concerning Visual Education, by E. Winifred Crawford. Doctor's, 1942. New York University. 317 p. ms.

Traces the history of visual education in Montclair, N. J. Discusses principles for counseling with teachers on visual aids, photographic records for counseling and research, and counseling through community cooperation.

Development of a Broadcasting Program for 5A Geography in the Cleveland Public Schools, by Florence N. Potter. Master's, 1942. University of Cincinnati. 257 p. ms.

Describes the development and use of a radio program for teaching geography in one grade of the Cleveland schools.

Development of an Audio-Visual Educational Program for an Elementary-Junior High School, by Russell S. Clark. Master's, 1943. University of Cincinnati. 113 p. ms.

Gives the history and development of classroom films; criteria for selecting equipment; selection and ordering of films; advantages and disadvantages of a film program. Describes the use of films in teaching the social sciences in one school.

Development of the Diorama in the Museums of the United States, by Irene F. Cypher. Doctor's, 1942. New York University. 213 p. ms.

Discusses the use of visual aids in education, and the museum as an educational institution, the development of the habitat group, the development and use of the diorama in new museums and in the schools, and its use commercially.

An Evaluation of Radio Broadcasts for Junior High Schools in the District of Columbia, by Lola C. Updyke. Master's, 1943. George Washington University. 96 p. ms.

Evaluates the 1941–42 broadcast series "The Other Americas" with particular reference to the broadcast on Canada.

Improving the Motion Picture Experiences of Youth, by A. L. Morgan. Doctor's, 1942. Colorado State College of Education. 88 p. ms. (Field study No. 2).

Attempts to determine and recommend ways for improving the motion picture habits and experiences of pupils in a junior high school in Beaumont, Tex. Concludes that the attitudes and beliefs of children are affected by what they see at the movies; that parents are not actively concerned with the type of pictures their children see; and that the practice of allowing boys and girls to attend movies alone or with friends of their own age is a doubtful one.

Principles and Practices in Audio-Visual Education: A Textbook for Teacher Preparation Classes in Elementary Education, by Lulu Spilde. Doctor's, 1942. New York University. 250 p. ms.

Presents a textbook on the use of the school journey, still pictures of various types, graphs, the museum, motion pictures, radio, and the phonograph. Discusses securing community cooperation, administration, and supervision of audio-visual aids and the sources from which they may be obtained.

Radio—Its Technique in the Elementary Classroom, by Eleanor P. Bartlett. Master's, 1942. Boston University. 88 p. ms.

Evaluates the program, "The American School of the Air."

Radio: A Textbook for High School Students, by Seymour Bernhard. Doctor's, 1941. New York University. 706 p. ms.

Presents a survey of broadcasting and discusses radio production and writing.

Social Role of the Motion Picture in an Interstitial Area, by Paul G. Cressey. Doctor's, 1942. New York University. 602 p. ms.

Traces briefly the history of a section of New York City from its early settlement to the present. Studies the social role of the motion picture in an area inhabited by persons of many nationalities, Jews and Negroes, all of whom live in crowded districts with limited socio-economic advantages. Analyzes replies of 110 boys to a questionnaire as to their motion picture preferences and their reasons for picking certain pictures.

Survey of the Audio-Visual Aids Being Used by the Louisville White Fourth, Fifth, and Sixth Grade Teachers, by Olga Schmutz. Master's, 1942. University of Louisville. 124 p. ms.

Traces the history of the audio-visual aid movement; the use, advantages and limitations of the school journey; objects, specimens and models; graphs, charts and diagrams; maps and globes; mounted pictures; stereoscopes; lantern slides; opaque projectors; filmstrips; motion pictures; microscope slides; phonograph records; and radio in instruction. Offers suggestions for improving the use of audio-visual aids.

Survey of Visual Education Equipment in Certain Schools of the Archdiocese of Cincinnati, by Julia B. Mathews. Master's, 1943. University of Cincinnati. 99 p. ms.

Recommends in-service training of teachers in the use of visual aids.

School Lunch Programs

Changes in Ration Order

On January 17 the OPA announced a new plan for school lunches by which America's school children are assured more generous amounts of food.

School lunch programs received, heretofore, allotments of food by much the same plans as commercial eating establishments. By the new ruling, allowances are based on the *number of persons served* and the *amount of food currently used*, rather than on the amount of food used in December 1942.

Schools should apply to local rationing boards *immediately* to secure increased allotments for the January–February period. Applications are made on Form OPA R–315, and must provide the following information:

1. The number of persons to whom the school expects to serve meals during the January–February allotment period.
2. For FDA contract schools—a statement of the type of meal to be served (Type A or Type B).
3. For noncontract schools—detailed information on the kind of meal which is to be served, and the amount of food needed.

School Lunch Leadership Training

Four special meetings concerning the school lunch program have recently been held in different sections of Vermont. The meetings were arranged by the education subcommittee of the Vermont State School Lunch Committee. The purpose was to give all interested groups and agencies late information available on organization and operation of school lunch programs.

Problems for discussion were presented by the assistant supervisor of homemaking education, the supervisors of health and physical education and of school lunch programs from the State Department of Education; the home demonstration leader; the State director of public health nursing; and the State supervisor of food distribution administration. Topics discussed were: Why a school lunch program; how to set up a program; the educational function of the school lunch; Federal aid for securing food; planning for food preparation; and sanitation and safety.

Those attending the meetings included school superintendents and principals, homemaking teachers, home demonstration agents, public health nurses, FDA area supervisors, members of parent-teacher associations and of mothers' groups, homemakers, members of local school lunch committees, county club agents, rural and village school teachers, and other interested persons.

School lunch bulletins prepared by the State School Lunch Committee, Government pamphlets, and other literature on various phases of nutrition and school lunches were distributed. An exhibit of other available materials was displayed.

The Vermont State School Lunch Committee feels, according to the report, that there is great value in unifying the efforts of representatives at both State and local levels from various services in planning for cooperation in school lunch programs. Those attending these larger sectional meetings will assist with similar smaller meetings in local communities when such help is needed in organizing a school lunch program.

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Family Food Helps

Teachers of home economics classes may find useful material in the following charts and folder published recently by the Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture:

Get Acquainted with Soya Flour and Grits.—A set of four illustrated charts, size 14¼ by 20 inches, telling why and how to cook with soya flour and grits.

May be ordered from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Sold in complete sets only. Cash, money order, or certified check should accompany the order. Price 20 cents per set of four.

Family Food Plans for Good Nutrition.—Folder. Gives two wartime plans for spending the week's food money or using home-grown foods to keep the family well fed: one for low-cost meals; the other for moderate-cost meals. Both plans take into account probable supplies and ration allowances. Either plan is flexible enough to fit any season, any place, and the tastes of any family.

May be ordered from U. S. Department of Agriculture, Washington 25, D. C. Free.

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Ruling On Use of Colored Margarine In School Lunches

The Bureau of Internal Revenue has ruled that cafeterias and other types of lunchrooms which are operated by a State or political subdivision thereof through the public-school system for the purpose of feeding students or employees may color white margarine and serve it without incurring Federal tax liability. These cafeterias and other types of lunchrooms may also mix margarine with peanut butter or with honey and serve it to pupils and teachers in a school lunch program without incurring Federal taxes.

This means that the State or political subdivision thereof does not have to pay

the $600 a year Federal special tax and the 10-cent per pound commodity tax, both of which taxes must be paid by public eating plaes not operated by a State or political subdivision thereof. Also, as far as the Federal regulation is concerned, it is not necessary to display a sign saying that margarine is being served. The margarine which has been colored may be used by a State or political subdivision thereof as a spread for bread, as a seasoning for vegetables, or in other dishes.

Concessionaires operating school lunch programs under contract with the school are required by law to pay a manufacturers' special tax of $600 per annum together with a stamp tax of 10 cents per pound on each pound of margarine colored.

Margarine yellow in color when purchased and on which the manufacturer thereof has paid a tax of 10 cents per pound, may be used without further Federal tax liability.

All of these statements apply to Federal taxes. A number of States prohibit the sale of colored margarine, and many States impose taxes on the use of colored margarine when served in schools and other public eating places. It is therefore important for school officials and sponsors of any child feeding programs to inquire about State taxes before serving colored margarine or using it in food preparations.

Among Educational Journals

Toward Achieving Democracy

Only by providing freedom of expression and respecting the needs of each growing personality can adults lead their children to an intelligent, voluntary habit of self-discipline and self-management, which alone will make a person capable of being a practitioner of democracy and its staunch advocate and defender. The democratic faith can hardly be distributed wholesale through the movies, the radio, or the daily press. It has to be acquired and instilled consciously, through intense, democratic living, and passed on from father to son, from teacher to pupil. Only through personal contact with mature adults who are fully conscious of the purpose of education and acutely concerned that the young people shall carry on the democratic tradition will our young generation learn, despite war and chaos, how to believe in itself and the world of which it is a part.

—Joseph Miller, in *National Parent-Teacher*, December 1943.

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It is only when all peoples in all lands accept the principle that *all* men are created equal, that one nation cannot grow and prosper while other nations are denied these privileges, that one group or class within a nation cannot be without adequate shelter, food or clothing while another group or class has more than it needs, that war will be banished from the earth. It is only through the right kind of education of the peoples of the world, including our own people, that wars can be prevented. When that is done, schoolhouses can take the place of battleships and school teachers the place of soldiers. Are we or will we be equal to the Challenge?

—*The Colorado School Journal*, December 1943.

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Just as one frees one's physical powers by disciplined use of them, humans reach toward the attainment of the free mind by the same process of disciplined use of human mental powers. Just as physical schooling creates the higher physical freedom, so mental schooling may develop mental freedom. * * *

Negatively, we have mental freedom when the mind is not prevented from acting by coercion. In one sense, we always have this type of mental freedom, for chains cannot encompass the mind. However, the mind is chained by more subtle things such as indoctrinated prejudices and subtle propaganda which enslave us as surely as physical bonds. A person who is pushed around by propaganda is just as much a slave as a person who is driven to work at the point of a bayonet.

—Paul R. Conroy, in *The Educational Record*, October 1943.

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Our crucial problem is civic illiteracy—fundamental inability of many of our people to become seriously interested at times other than at election in the study of fundamental problems. Labor and capital, the middleman, the consumer, the producer—the whole American structure is concerned with the importance of statesmanship in the conduct of our common affairs.

—Alonzo G. Grace, in *Connecticut Teacher*, December 1943.

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Looking Ahead

The task of solving the immediate post-war problems cannot belong to the children now in our schools. The world will not stand still until they grow up. Something must be done now. Planning must begin at once in every community for post-war jobs, post-war industry, and the development of the region's natural resources. This planning cannot be safely left to the school children. Neither can it be entirely left to the State or the Nation. It is the responsibility of the adults in each community. This includes teachers as adult citizens, not as teachers of children.

—Deborah Davis, in *The Idaho Journal of Education*, December 1943.

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The problems of post-war reconstruction are at once economic problems, political problems, sociological problems, psychological problems, historical problems, and most important of all, problems of value. Not until the economist, political scientist, sociologist, psychologist, historian and moralist sit down to a common table and talk a common language appropriate to their common concern will a general education to meet the problems of the post-war world, or indeed any education in social studies worthy of the name, be a real possibility.

—Albert William Levi, in *The Educational Forum*, November 1943.

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Correspondence

(*From page 17*)

however, the children of foreign-born parents go to a neighbor for assistance, and in another, the mother of a second-grade pupil supervises a neighbor's child so that the two children may work and play together. Three counties provide elementary correspondence courses for children confined in sanitariums or hospitals. In another, a service organization has given financial assistance to a home-bound child. In most instances, as soon as the local school reopens, the children who can attend it transfer from the correspondence school to the regular school.

U. S. GOVERNMENT ANNOUNCES

Orders for the publications listed on this page should be addressed as follows: Requests for cost publications should be sent to the Superintendent of Documents, Government Printing Office, Washington 25, D. C., enclosing remittance (check or money order) at the time of ordering. Free publications should be ordered directly from the agency issuing them.

New U. S. Office of Education Publications

Juvenile Delinquency and the Schools in Wartime. Washington, U. S. Government Printing Office, 1943. 26 p. (School Children and the War Series, Leaflet No. 8) 10 cents.

Reports specifically on what the schools are finding to be true in regard to juvenile delinquency, what they are doing about it, and what further plans they have to combat the problems that are being forced upon them.

School Building Needs. By Ellen Winston. Washington, U. S. Government Printing Office, 1943. 14 p. (Leaflet No. 68) 5 cents.

This report containing information obtained from 736 counties and 650 cities indicates the need for greatly increased attention to planning a comprehensive school-building program.

New Publications of Other Agencies

Federal Security Agency. U. S. Public Health Service, Division of Nurse Education. *Enlist in a Proud Profession! Train as a Nurse!* Washington, Federal Security Agency, U. S. Public Health Service, Division of Nurse Education, 1943. 16 p. Illustrated. Single copies free. Supply limited.

Describes the U. S. Cadet Nurse Corps and the opportunities offered young women by the nursing profession.

National Archives. *The Administration of Current Records in Italian Public Agencies.* By Ernst Posner, a former archivist at the Privy State Archives in Berlin. Washington, National Archives, November 1943. 13 p. (Records Administration Circular No. 5.) Processed. Free. (Supply limited.)

Prepared at the request of the Archivist of the United States for the assistance it may render in the administration of occupied territory.

National Resources Planning Board. *After the War—1918–1920.* Washington, U. S. Government Printing Office, June 1943. 45 p. 10 cents.

Attempts to answer present questions concerning military and economic demobilization of the United States and its effect upon employment and income, through an analysis of the transition to peace following World War I. Documented. Graphs.

———. *Estimates of Future Population of the United States; 1940–2000.* Prepared by Warren S. Thompson and P. K. Whelpton of the Scripps Foundation for Research in Population Problems for the Committee on Population Problems of the National Resources Planning Board, Washington, U. S. Government Printing Office, 1943. 137 p. 35 cents.

Based on 1940 census. Includes a statement of assumptions relative to mortality and fertility trends, underenumeration of children, immigration and future population growth, and distribution of war losses; and indicated population changes and their implications.

———. *Puget Sound Region; War and Post-War Development.* By Puget Sound Regional Planning Commission, and Washington State Planning Council in cooperation with National Resources Planning Board. Washington, U. S. Government Printing Office, May 1943. 160 p. 40 cents.

Specific plans relate to land and agriculture, minerals, forests, water resources, industry and commerce, transportation, communities and facilities, housing, recreation, medical and public health service, and education. Tables, graphs and maps. Documented.

———. *Regional Planning; Part XII—Arkansas Valley.* Prepared under the direction of Edwin R. Henson, with the cooperation of regional and State planning agencies in the Central Southwest area. Washington, U. S. Government Printing Office, 1943. 109 p. 50 cents.

Describes the wealth of the valley, also the economic status of its people; and presents a plan within which it is possible for the people to improve their own well-being through knowledge of what they have to work with and through forethought. Documented. Tables and graphs.

U. S. Army. Recruiting Publicity Bureau. *Facts You Want to Know About the WAC.* Washington, Recruiting Publicity Bureau, 1943. 24 p. Illustrated. Free.

Describes the duties of the WAC and urges eligible women to enlist.

———. ———. *To Those Cooperating in the Army Air Forces Aviation Cadet Program.* Washington, Army Recruiting Publicity Bureau, 1943. 15 p. Free.

Includes plans for reaching desirable applicants, and the basic policies governing the conduct of the program.

———. ———. *While You Delay . . . They Die!* Washington, Army Recruiting Publicity Bureau, 1943. (Folder 6 p.) Illustrated. Free.

Urges women who can to join the WAC now.

U. S. Congress. House. *Handbook for Servicemen and Servicewomen of World War II and their Dependents, Including Rights and Benefits of Veterans of World War I and their Dependents.* Revised. Washington, U. S. Government Printing Office, 1943. 68 p. (78th Congress, 1st Session. House Document No. 285.) 15 cents.

This revised edition contains 315 questions and their answers.

U. S. Department of State. *Papers Relating to the Foreign Relations of the United States; the Paris Peace Conference, 1919, Vols. III, IV.* Washington, U. S. Government Printing Office, 1943. (Department of State Publications 1958, 1963.) $2 each. (Buckram.)

The third and fourth volumes of the series of the Department of State's documentary record of the Paris Peace Conference of 1919. Vol. III (1,062 p.) opens with the directories of the Conference as of April and of October 1, 1919. The rest of the volume consists of minutes of the plenary sessions of the Preliminary Peace Conference, the Peace Congress, the Powers with Special Interests, and of the Council of Ten from January 12 to February 14, 1919. Vol. IV. (880 p.) contains the minutes of the meetings of the Council of Ten from February 15 to June 17, 1919, and of the Council of Foreign Ministers.

U. S. Tariff Commission. *Preliminary Report on Production and Sales of Synthetic Organic Chemicals in the United States, 1942.* Washington 25, Tariff Commission, November 1943. 31 p. Processed. Free (Supply limited.) May also be obtained free from the Commission's office in the Customs House, New York 4, N. Y.

Gives the quantity of production and the quantity and value of the sales of coal-tar crudes, intermediates, finished coal-tar chemicals and non-coal-tar chemicals.

U. S. GOVERNMENT PRINTING OFFICE: 1944